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January 23, 2009 Volume 31 Number 4 www.processor.com



In This ISSUE

COVER FOCUS:

Data Center "Must-Haves"

What tools, processes, staff, and other elements do you need to have in place to ensure your data center's success? We talked with experts to find out.

Security Necessities	1
Storage Essentials	6
Power & Cooling Must-Haves	8
Network Management Musts	9

TECH & TRENDS

Making Staff Cuts | 1

In planning for layoffs, it's imperative to have a well-conceived plan for selecting employees, communicating the news, and maintaining the focus and effectiveness of remaining staff.

Different Cloud Offerings | 18

New paradigms revolving around the cloud are gaining in popularity throughout the enterprise. We provide an overview of the different levels of cloud computing.

Open Source In Every Enterprise | 19

Adoption of open-source software is becoming pervasive, but SMEs have discovered that open source often comes with an ongoing price.

Choose The Right Vendor | 20

With so much consolidation among vendors and product manufacturers, it's important for data center and IT managers to thoroughly vet vendors to protect themselves from possible losses.

■ After a two-month search to replace Yahoo! CEO Jerry

Yang, Carol Bartz accepted the positionpage 4

4

NEWS

■ Apple CEO Steve Jobs announced he is taking a
leave of absence until the end of Junepage
■ The National Safety Council, a nonprofit consumer
safety organization, is calling for a nationwide ban on cell
phone use while drivingpage

- Data center managers struggle with the conflicting goals of providing a high level of performance and service while reducing costs, according to Symantec's 2008 State Of The Data Center report.....page 9
- The ODF (Open Document Format) is beginning to gain traction with governments, with Germany and Uruguay recently joining as adopters of ODF......page 9
- A study released by the Consumer Electronics Association found that more than half of consumers doubt the veracity of companies that claim "green" qualitiespage 19
- Nortel Networks has filed for Chapter 11 bankruptcy protection in the United States after a years-long battle to turn its business around.page 19

EACH WEEK

LACII WLL	-12	
MarketPlace News4	Opinions	17
Upcoming IT Events4	How To	21
Products At Work5	Six Quick Tips	22
Product Of The Week10	What's Happening	23
Product Releases11	Three Questions	23

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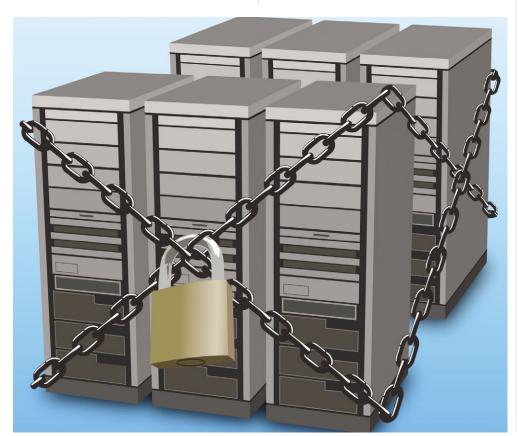
Security Necessities

IT Managers Should Think Holistically To Protect The Company's Nerve Center

by Carmi Levy

YOUR DATA CENTER is the core of your company's IT environment. If it's compromised in any way, the risk to your business could be incalculable. But as

companies actively look for any opportunity to save money, they may want to think twice about cutting indiscriminately within the data center. One size definitely doesn't fit all, and that last cut may be fatal.



"Every data center has different security requirements depending on specific circumstances," says Warren Shiau, senior associate and lead analyst of IT research for The Strategic Counsel. "It's simply too risky to make cuts that take you below the requirements of your circumstances."

Face Down Multiple Threat Sources

Sean Martin, vice president of marketing for endpoint security vendor SkyRecon (www.skyrecon.com), advises data center managers to look in more than one place when boosting overall security.

"Data center survival requires protection from intrusion, improper access, system theft, data theft, and system misuse," Martin says. "As IT and security operations find their workload increasing without extra team members to help them, they should look for ways to consolidate their projects such that they can get a single, clear view—and centralized, auditable

Go to Page 7

Key Points

- Think holistically. Protect against multiple threats: intrusion, improper access, system theft, data theft, and system misuse.
- Prepare for every scenario. Secure all equipment in the data center and at home and remote sites, even if it's been stolen.
- Don't fly solo. Solicit business partner input at every stage.

Making Staff Cuts

Have A Selection & Communication Strategy & A Plan For Surviving Staff

by Kurt Marko

THE PROTRACTED RECESSION and concomitant financial crisis is decimating the bottom line at most businesses and leading them to seek any means to cut expenses. Unfortunately, this often means reducing staff, and IT personnel aren't immune to the sacrifice. Because staffing amounts to about 70% of the typical IT department's budget, according to Jennifer Perrier-Knox, senior research analyst at Info-Tech, significantly reducing IT costs is impossible without some layoffs.

Perrier-Knox says that "Terminating staff—especially good staff—is one [of] the hardest things an IT decision maker will ever have to do. Unfortunately, when it comes to layoffs, there is nothing pleasant or fair about it—it's

all about the survival of the enterprise." Thus, it's imperative to have a well-conceived plan for selecting employees, communicating the news, and maintaining the focus and effectiveness of remaining staff.

In planning for layoffs, Perrier-Knox says IT managers need to understand the extent of required staff cuts throughout the company. Not only does this help managers judge how IT is being treated in comparison with other departments, but she also notes, "Knowing the planned reduction in headcount enterprise-wide will help project how many end users IT will be supporting going forward."

Selection Process

According to David Van De Voort, a principal at HR consultant Mercer, many

companies try to avoid or delay layoffs with voluntary severance programs, salary cuts, or temporary furloughs. Should these less draconian measures not produce required labor savings, IT managers need a structured process for identifying tasks, projects, and workers that can be eliminated. The first steps, according to Perrier-Knox, are to freeze all project portfolios and reprioritize every activity. Managers need to ask, "What is the bare minimum that needs to be done to keep the lights on?" she says, adding, "Any activities that are not necessary can, and probably should, be dropped."

Next, Perrier-Knox advises IT managers to perform a skills assessment of existing staff and set baseline requirements, or the minimum skills necessary to perform a given activity, for each job. She cautions, "Managers need to be fairly ruthless here," noting, "Any staff who possess

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NETWORKING & VPN

JANUARY 23, 2009

3. What is your annual computer hardware/

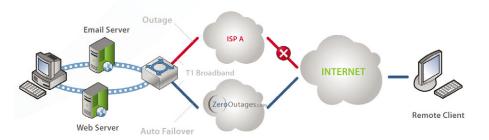
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SECURITY

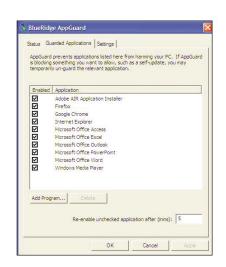
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Blue Ridge/Secure AppGuard protects PCs from viruses and zero-day malware attacks that legacy solutions are unable to identify or stop.

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More Than Double PC Protection From Malware

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Blue Ridge/Secure AppGuard is an antimalware solution that protects PCs from attack by the latest generation of sophisticated malware threats, increasing endpoint security coverage to address more than 90% of known and unknown vulnerabilities. AppGuard is able to prevent machines from executing the harmful instructions delivered by zero-day and similar malware, neutralizing the attack until a patch is made available and can be installed.

Secure AppGuard is unique because, unlike legacy antivirus and antispyware products, it does not rely on signatures that are quickly outdated or require constant monitoring and tuning of policy rules. Secure AppGuard prevents an application from executing instructions that would indicate it has been hijacked by malware. Users can safely continue working knowing neither corporate nor personal data will be compromised.

Secure AppGuard is preconfigured to safeguard the applications most targeted by hackers, including Web browsers, Microsoft Office, and media players. Additional applications are easily added to the guarded list by system administrators or end users. In addition to these traditional attack vectors, Secure AppGuard also provides the ability to block attacks from USB devices such as thumb drives and also stops ActiveX controls from installing malware.

Secure AppGuard operates transparently to Windows XP and Vista users. If it encounters a problem, it simply blocks the application from performing the malicious action and alerts the user by flashing the Secure AppGuard icon. It also writes an entry in the Windows Event Log to support enterprise reporting requirements.



JANUARY 23, 2009

STORAGE

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DataCore SANsymphony

Fairway Consulting Group offers services based on best-of-breed virtualization technologies, including storage, server, desktop, and disaster recovery. As a channel partner with several virtualization manufacturers, FCG helps companies focus on sustainability, data growth, performance demands, end-of-life hardware, and disaster recovery.

FCG is a Premier Channel Partner with DataCore Software, with products focusing on storage virtualization, management, and monitoring. DataCore SANmelody, SANsymphony, SANmaestro, and Traveller CPR offer a combination of features and functionality to meet the needs of any enterprise.

DataCore SANsymphony overcomes the high cost barrier and complexity of traditional SANs by converting x86-based servers (physical or virtual) into fully capable SAN controllers that can virtualize any raw disk and serve them to application servers over iSCSI or Fibre Channel.

DataCore delivers the flexibility that conventional hardware virtualization cannot provide. And with DataCore, you can leverage

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NETWORKING & VPN



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Black Box FireTunnel 10 & FireTunnel 30

FireTunnel from Black Box® is a complete Internet access appliance, combining everything you need to establish a secure Internet connection in one device.

Consisting of a VPN, firewall, integral broadband router, and an 8-port 10/100Mbps Ethernet switch, the FireTunnel uses comprehensive IPsec VPN protocols to establish encrypted tunnels across the Internet. Remote network users can link to your network without worrying about eavesdropping, making the Fire-Tunnel perfect for connections to branch offices or employees who work from home. It's the quick and easy way to securely connect a small office to the Internet by DSL or cable.

FireTunnel includes a capable stateful inspection firewall with

URL and port blocking. DoS protection keeps your networks from being overwhelmed by a denial-of-service attack. It can even be configured to email you if your network comes under attack.

JANUARY 16, 2009

Two models are available: FireTunnel 10 offers a firewall and support for up to 10 VPN tunnels; FireTunnel 30 offers a firewall, support for up to 30 VPN tunnels, and load balancing across two WAN connections. Both can act as VPN concentrators, too, enabling multiple remote users to securely connect to each other through the FireTunnel in a small office or home office application.

FireTunnel is the quick and easy way to connect and protect your network-in one convenient package.

SECURITY JANUARY 2, 2009



plusID

plusID identity verification tokens work with existing door readers for an easy upgrade to the heightened security of biometrics.

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Easily Add Biometric Security To Your Data Center

Privaris plusID Personal Identity Verification Token

Data centers require "proof-positive" identity verification to properly secure the enterprises' valuable assets. But most biometric access control solutions entail the costly and complex installation of specialized readers and modifications to backend systems.

The plusID personal identity verification token from Privaris offers an easy and cost-effective path to the heightened security of biometrics — without ripping and replacing equipment or installing specialized access control software. plusID works with your existing door readers for rapid enterprise deployment. Simply issue authorized staff a plusID token in place of a standard access card to provide them with a secure credential that only they can use.

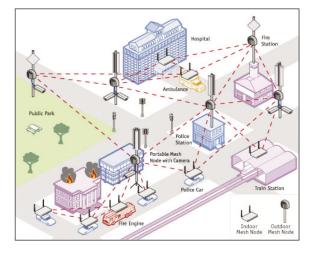
SECURITY

plusID outputs a standard card signal only after its rightful owner matches their live fingerprint to the print securely enrolled and stored on their device. The only installation required is the issuance of a new card number in your existing PACS (physical access control system).

Once inside the data center, the multi-function plusID also supports logical/IT access for secure logon to PCs and laptops - no need for backend systems or specialized middleware. All of the biometric processing happens on the device.

plusID puts the convenience of biometric processing directly in the hands of its user, eliminating the organization's liability for maintaining and securing biometric databases.

NETWORKING & VPN **DECEMBER 26, 2008**



Firetide's HotPort 6000 wireless mesh nodes and HotPoint 4000 wireless access points enable standalone wireless networks.

HotPort 6000 mesh nodes: \$1,295 to \$2,995; HotPoint 4000 access points: \$395 to \$995

(408) 399-7771

www.firetide.com

Standalone Wireless Networking

Firetide HotPort 6000 & HotPoint 4000

If there is anything better than reliable alarm monitoring and response supervision technology, it's the wireless version of those abilities. Companies and individuals in a variety of fields, such as emergency services and security, would benefit from the ability to wirelessly receive and act on alarms. A new wireless system of this nature has been developed by Digitize using wireless mesh technology from Firetide.

Firetide's technology facilitates a costeffective, rapid deployment and easy installation, enabling employees to set up a standalone network without the need for IT personnel. The networks operate in the 2.4GHz, 4.9GHz, and 5GHz frequency ranges. Firetide HotPort 6000 mesh nodes and HotPoint 4000 access points are equipped with HotView network management software and Firetide WLAN Controller soft-

ware, respectively, and feature WPA2 (Wi-Fi Protected Access 2), WEP (Wired Equivalent Privacy), and AES encryption for security, as well as a proprietary encapsulation

The Firetide HotPort 6000 wireless mesh nodes and HotPoint 4000 wireless access points come in both indoor and outdoor versions, enabling users to set up a network in virtually any location.

In addition to being cost-effective, the networks are self-contained and easily repositioned, so users can adjust to their changing needs on the fly.



Remote IT Automation, Simplified

Kaseya Endpoint Security & Backup And Discovery Modules

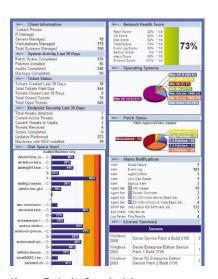
In tough economic times, optimizing IT resources is crucial to business success. With automation, companies can deploy solutions quickly and efficiently. Kaseya's answer to these issues is in the latest versions of its KES (Kaseya Endpoint Security) and BU-DR (Backup and Disaster Recovery) modules. The new modules are designed to simplify remote IT automation with seamless endpoint security, instant virtualization, and real-time disaster recovery.

The two modules provide different functionality. The KES module, integrated at the user-interface level and the database level with all other parts of Kaseya's IT automation software suite, lets users automate IT management without sacrificing full visibility. Users can keep an eye on all deployment, configuration, status, and operations of end-point security from a single Web-based console. KES provides seamless operation and management of antivirus, antispyware, and rootkit protection for Microsoft OSbased servers, workstations, and mobile computers.

Features of the BU-DR module include Incremental Forever and Synthetic Full Backups as well as Instant Virtualization. The backup functionality is designed to offer efficient offsite replication and user-defined archival capabilities. Features of Instant Virtualization include the ability to remotely and automatically convert any backup to a

VMware, ESX, or Virtual PC virtual disk. To make the restoration process less painful and recover files and folders in real time, users can set up a virtual environment and quickly have a key system up and running.

DECEMBER 26, 2008



Kaseya Endpoint Security 2.0 and Backup and Disaster Recovery 3.0 simplify remote IT automation.

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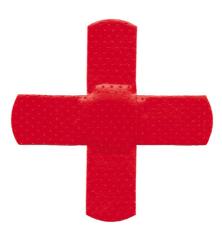


News

| Yahoo! Names New CEO

After a two-month search to replace Yahoo! CEO Jerry Yang, Carol Bartz accepted the position, beating out Yahoo! President Susan Decker, who was also a candidate. Yang stepped down after deals with Microsoft and Google fell through, causing a decline in stock price. Yahoo! also announced Decker will resign after an unspecified transition period. Bartz spent 14 years at Autodesk, a company that specializes in design software for architects and engineers, where she served as chairman, president, and CEO. Bartz sees the potential in Yahoo!, saying, "I wouldn't have taken the job if I didn't believe there was a huge opportunity here."

Apple CEO To Take Medical Leave



Despite a recent letter reassuring investors and customers that his health was nothing to be concerned about, Apple CEO Steve Jobs announced in a second message that he is taking a leave of absence until the end of June. In the first message, Jobs spoke of a hormonal imbalance that was "robbing" his body of vital nutrients, leading to noticeable weight loss; in the new note, however, he explains that his health-related issues are more complex than he originally thought. While Jobs is recuperating, COO Tim Cook will handle Jobs' duties; concerns over Jobs' health are leading many to call on Apple to make a plan for succession of leadership.

Head Of Indian Outsourcing Company Resigns

Reports of inflated profits have been the undoing of the CEO of one of the largest software services companies in India. In his resignation, Ramalinga Raju admitted that Satyam Computer reported inflated profits and assets for several years. Raju founded Satyam, which specializes in ERP and package implementation and other solutions. The announcement caused shares of the company to drop by about 80%. In his letter of resignation, the former head said the profit overstatements began gradually, then mushroomed in the latest figures. Raju said that neither he nor his managing director profited from the false information. Two U.S. law firms have

already filed lawsuits against Satyam on behalf of investors.

NSC Seeks Ban On Cell Phones While Driving



The National Safety Council, a nonprofit consumer safety organization, is calling for a nationwide ban on cell phone use while driving. It plans to lobby in all 50 states and Washington, D.C., for bans on handheld and hands-free cell phone use, as well as texting, while driving. The council also plans to work with the U.S. government to develop incentive programs to help states enact these bans. Currently, driving laws in the United States are set by states. Only five states, plus the District of Columbia, have laws that prohibit the use of handheld cell phones, but no state has completely banned cell phone use while driving.

Sun Buys Cloud Company Q-layer

Sun Microsystems expanded its cloud computing base with the purchase of Belgium-based Q-layer in early January. Q-layer, established in 2005, automatically manages and deploys public and private clouds and will be added to Sun's Cloud Computing business unit, which develops and integrates cloud computing technologies, architectures, and services. Q-layer simplifies cloud management and supports instant provisioning of servers, storage, bandwidth, and applications, according to Sun, giving users greater flexibility in scaling environments to meet their specific requirements. Sun says the quick provisioning and deployment Q-layer facilitates is key to the company's strategy in enabling construction of public and private clouds. Terms of the deal were not disclosed.

Lenovo Restructures, Cutting Jobs & Wages

Beijing-based Lenovo announced that it plans to lay off 2,500 workers, which accounts for about 11% of its workforce worldwide. The layoffs, to occur by the end of March, and cuts in executive compensation are expected to inject about \$300 million into Lenovo's 2009/2010 budget. Lenovo's North American operation expects to lose about 300 jobs. The world's fourth-largest PC and x86-based server manufacturer has been underperforming, even compared to its rivals, which contributed to the

WATCH THE STOCKS

This information provides a quick glimpse of current and historical stock prices and trends for 14 major companies in the technology market.

Company	Symbol	Year Ago	Jan. 9 \$	Jan. 16 \$	% change from previous week
AMD	AMD	\$6.57	\$2.69	\$2.26	▼ 15.99%
Computer Associates	CA	\$22.36	\$18.42	\$18.09	1.79%
Cisco Systems	csco	\$25.15	\$16.70	\$15.81	▼ 5.33%
Dell	DELL	\$20.68	\$11.12	\$10.29	▼ 7.46%
Google	GOOG	\$615.95	\$315.07	\$300.44	▼ 4.64%
HP	HPQ	\$44.34	\$37.49	\$34.87	▼ 6.99%
IBM	IBM	\$101.63	\$84.70	\$85.08	▲ 0.45%
Intel	INTC	\$19.88	\$14.15	\$13.77	v 2.69%
McAfee	MFE	\$32.15	\$31.38	\$29.07	▼ 7.36%
Microsoft	MSFT	\$33.23	\$19.52	\$19.76	▲ 1.23%
Oracle	ORCL	\$21.92	\$17.36	\$16.98	▼ 2.19%
Red Hat Software	RHT	\$18.68	\$15.46	\$14.84	4.01%
Sun Microsystems	JAVA	\$15.53	\$4.66	\$4	▼ 14.16%
Symantec	SYMC	\$15.99	\$13.60	\$13.56	▼ 0.29%

NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions

decision to scale back. Lenovo also says it expects to announce a loss for the fiscal third quarter that ended Dec. 31.

EMC Meets Expectations, Plans Layoffs

EMC announced plans to cut 2,400 jobs and restructure its Information Infrastructure business, despite expectations that the company will report \$4 billion in revenue and 4% growth compared to the fourth quarter of 2007. The 2,400 layoffs work out to about 7% of EMC's Information Infrastructure business. EMC's virtualization products helped keep the company in the black, as information infrastructure has been a high-priority budget item within enterprise IT.

CA Purchases Data-Loss Prevention Provider

Though final details are still to come, CA announced it will purchase Orchestria, maker of software designed to control data and prevent data loss. CA plans to complete the acquisition by the end of this month. Orchestria is the third security software-related deal CA has made recently, previously buying IDFocus in October and Eurekify in November. The purchases are reportedly part of a strategy that finds CA amassing identity and access management software covering security, privacy, and regulatory compliance applications. "With this acquisition, CA will deliver one of the broadest and most advanced information security solutions in the market today and address the demand for a new generation of identity and access management," says Dave Hansen, CA Security Management corporate senior vice president and general manager.

Seagate To Cut 6% Of Workforce

Seagate, the world's largest hard drive maker, announced it plans to lay off about 6% of its employees, including about 800 U.S. workers, as part of a restructuring effort. The layoffs will affect about 2,950 of its 53,000 workers worldwide and save the company about \$130 million a year. Additionally, the company plans to trim executive salaries by as much as 25% (saving about \$80 million a year) and replace CEO Bill Watkins and COO Dave Wickersham with Stephen Luczo, chairman of Seagate's board of directors. Seagate says specific restructuring details will come later this month. Budgetary cuts could also reach Seagate's research and development programs. The move follows a December announcement from competitor Western Digital that it will cut about 5% of its workforce.

Novell Names New EMEA President, Channel Head

Novell's Europe, Middle East, and Africa division soon will have a new president. Javier Colado will replace Volker Smid and will report to CEO and President Ron Hovsepian. In his current post as vice president and general manager of partners, Colado has been revamping Novell's channel and partner program. The transition will wait until the project is completed, according to Novell. Meanwhile, John Dragoon, senior vice president and CMO, will assume Colado's channel and partner duties. Dragoon will continue his marketing role in addition to his new responsibilities.

Borland CEO Becomes VMware COO

Tod Nielsen, Borland's CEO and president, has taken a newly created position at VMware as its chief operating officer. Nielsen has served in Borland's top posts since November 2005 and will continue to sit on its board of directors. His resume includes executive-level roles at Microsoft, Oracle, and BEA Systems. He will report to VMware boss Paul Maritz. Meanwhile, Borland has appointed Chief Financial Officer Erik Prusch as its acting president and CEO. The Austin, Texas, company also announced plans to eliminate about 130 full-time positions, or 15% of its workforce, by the end of the first quarter.

Upcoming IT Events

Are you looking to learn more about data center or IT topics? Network with some of your peers?

Consider joining a group of data center professionals. If you don't see a meeting listed in your area, visit www.afcom.com, www.aitp.org, or www.issa.org to find a chapter near you.

- JANUARY -

Gartner CIO Leadership Forum Jan. 25-27

Palm Springs, Calif. www.gartner.com/it/page.jsp?id=770919

ISSA Des Moines Jan. 26, 11:30 a.m. 1401 50th St., Suite 200 West Des Moines, Iowa

AITP Akron

Jan. 27, 6 p.m. Lindsay's Amber Restaurant 1500 Canton Road Akron, Ohio www.akron-aitp.org/index.htm

ISSA Baltimore
Jan. 28, 4:30 p.m.
Sparta Inc.
7110 Samuel Morse Drive
Suite 200
Columbia, Md.
www.issa-balt.org

- FEBRUARY -

AFCOM St. Louis "Gateway" Chapter Feb. 10 Schneider Electric

Technology Center 807 Corporate Centre Drive O'Fallon, Mo. www.afcom.com/afcomnew /stlouis.html

Greater Kansas City

AFCOM
Feb. 10
Cerner Corp.
3200 N. Rockcreek Parkway
Kansas City, Mo.
www.greaterkc-afcom.com

AITP-Central Idaho

Feb. 11, 11:45 a.m.
Owyhee Plaza Hotel
1109 Main St.
Boise, Idaho
www.boisestate.edu/dpma
/dpmaci/centida.html

AITP Washington D.C.

Feb. 12, 6:30 p.m. Alfio's Restaurant 4515 Willard Ave. Chevy Chase, Md. aitpwashdc.ning.com

AITP Pittsburgh

Feb. 16, 6 p.m. Sokol Club-Southside 2912 E. Carson St. Pittsburgh, Pa. www.aitp-pgh.org

Oklahoma City AITP Chapter

Feb. 17 Oklahoma City, Okla. www.aitp.org/organization/chapters

Feb. 18 Spaghetti Warehouse 101 E. Sheridan Ave. Oklahoma City, Okla. www.issa-okc.org

AITP Omaha

Feb. 19, 5:30 p.m. Seraph Corp. Omaha, Neb. www.aitpomaha.org

AITP Tarheel

Feb. 19, 6 p.m. Foothill Brewery 638 W. 4th St. Winston-Salem, N.C. www.aitp.org

Technology Convergence

Conference Feb. 19

Santa Clara Convention Center Santa Clara, Calif. www.technologyconvergence conference.com

PRODUCTS AT WORK

Backing Up To Disk

City Speeds Up Its Backup Process & Saves On Storage Space With Revinetix

by Sue Hildreth

IT'S AN ALL-TOO-COMMON SCENARIO: Every night, after employees have gone home, the IT department begins its daily backup of the day's data. In the morning, the tape is put in storage, and often, no one bothers to check that the backup was actually successful. Eventually, there comes the day when disaster strikes, and IT rushes to restore from backup only to find that the data is corrupted, the backup process stopped midway, or maybe the tape itself is bad. Suddenly, the IT department is trying to figure out how to reconstruct days or even weeks of lost data.

It's during those times that the data center manager starts looking around for other backup options.

For Steve Jones, director of technology for the town of Blacksburg, Va., failures in the nightly backup to a tape library had been growing increasingly common for several years. So too had the complexity of the data that the town's IT department had to back up.

"As the number of our systems grew, so did the quantity and complexity of the data, and so did the backups," explains Jones. "At night, we might have some kind of failure, and it could be that the backup Last January, he started researching alternatives to the existing backup system.

The Disk Alternative

Initially, the idea had been to upgrade to a more modern tape system. But many of those newer tape systems were "incredibly expensive," says Jones. Finally, at a Microsoft conference in the spring of 2008, one of Jones' IT staffers came across a case study of another town govern-

ment that was using a disk-to-disk backup system called Sentio from Revinetix (www.revinetix.com).

After talking to Revinetix and a couple of its customers, the Blacksburg IT department decided it was ready to leave tape backups behind.

"It was a leap of faith, because tape was something that we had been doing for years," notes Jones. "It's a bit like going from horse to a gas car for the first time."

However, the cost of higher-end tape systems and tape's reported failure rates—estimated at anywhere from 42% to 71% in terms of tape restore failures—made disk-to-disk backup seem like the more practical choice.

With the move to Revinetix, the amount of time needed to back up data has dropped back down to a more manageable level—from about 15 hours to just four.

-City of Blacksburg's Steve Jones

device had a failure, or the server or the software on the server could have a problem. It got to the point where you couldn't sleep at night wondering if the data was backed up."

In fact, the city's volume of data had been growing at about 80% annually, and backups were taking longer and longer to complete.

"The Sentio product was fast, which we liked, but a key selling point for us was cost. You traditionally had to buy your backup [hardware] from one vendor [and] then buy your software [from another vendor] to do the backup. With Revinetix, you don't have to do this. The client installs on each [system] you want to back up, and you

have a main administrative interface," he explains.

The Blacksburg IT department selected the Revinetix Sentio 2000 Disk2Disk2Disk data protection appliance, which features dual high-performance processors, Gigabit and Fast Ethernet controllers, dual redundant power supplies, high-speed SATA drives, and RAID 5 technology. The drives are hot-swappable, making it easy to change them out for offsite storage.

Jones notes that the switch from tape to disk backup also has required IT to put more thought into its storage policies. "We've become more complicated in our system, and this reminded us that we need to put some policies in place . . . such as ones saying we don't store every 5-year-old Word file."

to handle single-instance storage that would allow only one copy of a file to be saved on a server, and multiple users could then access that one file. That reduces data volume and makes backups faster and more efficient.

An Easy-To-Use Solution

The browser-based administration interface of the Sentio 2000 also held appeal for Jones because it provides him with flexibility and functionality in such things as deciding how to schedule the various backups and what types of backups to schedule, whether full, differential, or incremental.

The Revinetix RevOS operating system also automates the backup, archival, and recovery functions for end users, making it simpler for the average employee to use.

The software keeps a running catalog database of all the files saved, so when IT or an end user needs to retrieve information, he can simply point and click to a directory location and the file.

With the move to Revinetix, the amount of time needed to back up data has

dropped back down to a more manageable level, according to Jones—from about 15 hours to just four.

"Now we start at 11 p.m. and it's done by 2 a.m.," says Jones, adding that he does not foresee the city's growth in data outstripping the capacity of the Sentio system in the foreseeable future. "Even if our data volume outgrows what we have now, we can always buy another Revinetix and have another backup stream running."



The city's storage infrastructure also

includes a SAN, so the IT department opted

to use the Sentio 2000 for backups up to three months old, and older information would be transferred to the SAN.

Solving Tape's Problems

Besides improving the consistency of the nightly backups, the speed has also increased, says Jones. Prior to the move to disk, the nightly backups were taking longer and longer to complete, to the point that they were still going on well into the next morning when workers were coming in to use their computers. Eventually, just before they switched to the Sentio 2000, IT would start the backup process at 8 p.m., and it would be completed shortly before noon the following day.

One problem was the tape system itself. The tape backup system did a serial backup, one server at a time, whereas the diskto-disk Revinetix product can process multiple backup streams at once.

"That allows us to run several backup jobs simultaneously," says Jones.

Another problem that was both slowing the system and eating up storage space was that users had too many duplicate files. Every file might have a version stored in multiple locations, and all of them were backed up each time it was changed slightly. While they wanted to back up the latest versions of documents, they didn't want to back up 10 identical copies of them.

That was not the problem of the tape drive, but the lack of the storage software

Revinetix Sentio 2000 Disk2Disk2Disk

The Sentio 2000 Disk2Disk2Disk appliance features Intel Core 2 Duo processors, Gigabit and Fast Ethernet controllers, and support for high-speed SATA drives and RAID 5 technology. The Sentio automates backups, and its support for hot-swappable drives makes switching out disks fast and easy. The old disks can then be archived offsite for disaster recovery.

"A key selling point for us was cost. You traditionally had to buy your backup [hardware] from one vendor [and] then buy your software [from another vendor] to do the backup. With Revinetix, you don't have to do this," says Steve Jones, director of technology for Blacksburg, Va.

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Storage Essentials

Thin Provisioning & Data Archival Are A Must In The Data Center

by George Crump

GIVEN TODAY'S COST-CUTTING environment and the ever-increasing stores of data enterprises must deal with, the storage tools you implement in your data center need to focus on decreasing costs while increasing efficiency. The goal is to meet increased capacity demands, reduce the amount of primary storage that you will need to purchase, and lessen the investment in the backup process.

Thin Provisioning

One of the best ways to limit the amount of storage to be purchased is to implement a system that can control growth via thin provisioning and data deduplication.

"Data deduplication finds redundant blocks of data and only stores one copy of that data; this technique is especially valuable in virtualized server environments where there tends to be a large amount of redundant data. Thin provisioning addresses the other side of the coin by minimizing the space allocated in the first place," says Jeff O'Neal, senior director of data center solutions at NetApp (www.netapp.com).

It is common practice for a user to submit a request for storage doubling what the application will actually need. Ironically, storage administrators will then double that number again so they don't have to be troubled expanding the volume. The result is capacity that is provisioned but not used.

Thin provisioning only allocates disk space as it is actually used. For example, if a 1TB volume is provisioned, but only 256GB is actually written to it, then only 256GB is actually consumed. The result is a significant reduction in the amount of storage required by the storage systems.

Secondary Storage

Beyond thin provisioning is moving older data off of primary storage. The common rule of thumb is that 80% of the data stored on servers is not active and in most cases has not been accessed in years. Moving this data greatly reduces the need to purchase additional primary storage but also reduces the amount of data that needs to be backed up, thereby reducing the investment required in the backup process.

"As part of this archive move, it is an ideal time to optimize this data via compression and deduplication to reduce the amount of disk capacity that it consumes on the archive, as well as freeing up primary storage," says Carter George, vice president of products at Ocarina Networks (www .ocarinanetworks.com). "The result is a cost reduction in three critical areas: reduction in primary storage, reduction in backup storage, and reduction in secondary or archive storage."

The challenge with optimizing the archive is that most of the data on an archive is unique. This requires a more detailed content-aware approach to data reduction. Because moving data to the archive is less time-sensitive, greater time can be spent examining the data to be archived. This allows complex documents, such as PDF files or even images that have

Key Points

- Storage tools should reduce storage costs while increasing efficiency.
- Thin provisioning, data offloading and archival, and virtualized backups free up resources and make better use of the storage you have.

age resources. Being content-aware is especially critical where the data similarities may not be as obvious to a tool that simply examines the data bits," concludes George.

Backup Virtualization

Another storage must-have that reduces costs in the backup process is consolidated



One of the best ways to limit the amount of storage to be purchased is to implement a system that can control growth.

changed slightly, to be examined and optimized prior to moving to secondary media.

"Implementing a content-aware data optimization tool that can also optionally migrate that data to a secondary storage tier can create a compelling reduction in storbackup resources via backup virtualization. Gresham Storage's Vice President of Product Management Tom Wright (www .gresham-storage.com) says, "Because of the challenges associated with backup, administrators have had to implement a lot of point solutions, which have made the process unwieldy and expensive. By consolidating these resources into a single shared pool that can be accessed by a variety of backup applications, they can leverage the existing resources better and delay future purchases significantly."

Most disk and tape solutions are not intethe backup disk capacity investment. . . . This can prevent any additional backup storage purchase, tape or disk, in 2009," concludes Wright.

Dell Reorganization Raises Questions About How Globalization Will Affect SMEs

News

Following in the footsteps of its consumer business model, Dell recently announced that it will reorganize its company into three global segments for sales to businesses and government agencies. Dell says the reorganization will enable greater global accountability and responsiveness to the needs of its customers and will accelerate innovation and execution. John Enck, managing vice president at Gartner, explains, "In the new model, Dell can introduce a new product, service, or methodology and consistently roll it out worldwide much easier."



The three new segments are Large Enterprise, which Dell says will facilitate greater attention to the world's largest IT users; Public, which includes health care, government, and education; and Small and Medium Business, which will work to deliver SME-specific solutions and

The move came shortly after Dell's report that profits in its fiscal third quarter decreased by \$39 million year-over-year, a loss the company attributes to lower sales worldwide, as a result of the economic crisis. But the company is confident in its new plan, which will take effect next month, when financial reporting is aligned with the new structure during the first half of Dell's 2010 fiscal year.

Effects On SMEs

Although global shifts, such as Dell's reorganization plan, offer the globalized companies opportunities to standardize products and services, they also prompt questions about how small and medium-sized companies in the United States will be affected. However, Enck asserts that there won't be much of a change, saying that "Most U.S. businesses will not be affected positively or negatively by these types of expansions." According to Enck, reorganization projects such as Dell's can enable a company to bal ance income from different geographies, and "at any one point in time, some geographical region is likely to be underperforming, so this gives the vendor the opportunity to make up that loss in another area," he says.

Enck admits that some U.S. companies could see a slight change because "[Global vendors] might not be as quick to respond to new needs or demands in the U.S. market" if the U.S. enterprises were to generate a specific need that those in other countries didn't share. In such a case, a product might be delayed or released only on a limited basis. But Enck asserts that instances like this would be rare. "[Globalization] is a balancing effort, not a redirection of investments," he says.

by Kris Glaser

Most Essential Tool: Active Recovery

The most essential storage tool to consider for your data center is a product that can take advantage of your storage system's snapshot technology or backup storage area to enable quick and easy restores.

"Active recovery tools allow the administrator to peer into existing snapshots or backups to perform live interaction with their applications," says Barry Dop, manager of the enterprise software group at Kroll OnTrack (www.krollontrack.com). "Once the snapshot or backup instance has been brought up by the application, the user can then rapidly search for and recover individual components of those environments. They can then be directly restored to the application while it is live or exported out for some other reason,

legal discovery being a common example," continues Dop.

Without these tools, granular recovery is difficult, if not impossible, and most administrators only use snapshots for complete rollback and use their backups for individual component restores, such as restoring messages or documents. As a consequence, most users dramatically underutilize snapshots and are too reliant on backup data sets. Active recovery tools allow for granular use of the snapshot area, and when implemented, users begin to derive greater functionality from the snapshot features of the SAN or NAS. Not only does this reduce the capacity required by keeping extra backup copies of these applications, it also increases the efficiency of the backup administrator.

grated, and as a result, users don't see an increase in overall backup performance to tape. This leads to more of the IT budget being spent on backup disks to hold the active backup data set while waiting for the tape to accept the migration of the backup job from disk. "Because backup virtualization solutions more tightly couple the backup disk and tape libraries, users will actually see an improvement in overall tape performance, and this reduces the required quantity of tape drives, as well as reducing

Security Necessities

Continued from page 1 control—over their data center systems, data, and access policy."

Martin says by focusing on four key areas of control, data center managers can cover most areas of vulnerability without breaking the bank:

- **1.**Control how systems are used locally when connected to the expected physical corporate network. This involves knowing which applications can or cannot be installed, uninstalled, launched, or stopped; which networks can or cannot be used; and which data can be accessed by which applications stored locally, on network drives, or on removable devices such as USB flash drives.
- 2. Control how systems are used locally after they've been stolen. Ideally, systems should be locked down, and applications and data should be unavailable when devices are used outside the physical data center.
- 3. Control how systems and data stores are accessed and used by end-user and/or noncompany systems. This involves understanding which applications and data are allowed to access internal systems, what resources they can access, and how they can access them. For example, are they allowed to copy data locally? Similarly, can they copy data to USB drives? This thinking also applies to mobile devices such as laptops and smartphones. Data center managers must understand what this class of equipment can and cannot do with organizational data. Mobile and remote system access to data center resources must also be carefully implemented. One strategy might include forcing all incoming traffic through an SSL VPN before accessing any data

center or Internet applications or opening additional network connections. In all cases, organizations must look beyond the technology itself and have enforceable policies in place to ensure compliance.

4. Control how mobile data center applications and data are used. Laptops and consumer-focused home systems present unique challenges to data center reduce costs and improve operational efficiencies, it will also impact data center security by accelerating provisioning and freeing managers from administrationheavy tasks so they can more effectively monitor usage patterns.

Talk To Your Partners

Shiau says when looking for savings in key areas such as security, storage, power and cooling, and network management, the general trend among data center managers is to cut any planned new expenditures and

can't be cut unless everybody agrees to and signs off on what minimal acceptable levels are and agrees to and signs off on accepting anything that happens as a consequence of cutting below minimum acceptable levels." Shiau emphasizes that security-minded data center managers should tread carefully when it comes to assessing their net-

"There are certain things that cannot be

cut from a data center budget, no matter

what the state of the economy or the state of the business," says Shiau. "That is, they

work management needs-in large part because business partners view availability as a critical aspect of operational security.

"The business side understands uptime and reliability, and it's hard to see them directing cuts in an area that will affect what they hold dearest to their heart: having everything up and running," says Shiau. "That said, if squeezing the last drop out of operating costs is critical, in environments where there are a lot of different consoles and a lot of different skill sets, it might be a good idea to look at what sort of savings an integrated management console—and reduction/consoli-dation of skill sets—could bring."

"Every data center has different security requirements. . . . It's simply too risky to make cuts that take you below the requirements of your circumstances."

-The Strategic Counsel's Warren Shiau

managers. Beyond securing traffic with VPNs and encryption, the organization must have plans in place to handle theft and loss. Just because the machine doesn't belong to the company doesn't mean it isn't vulnerable to unapproved access to the mobile or remote system, and to the significant data loss that often results.

Bake Security Into Everything You Do

Data center managers cannot risk viewing security in isolation. Rather, it is a discipline that must be tightly integrated into every aspect of data center management. Every change within the data center has potential security implications that must be considered during planning and implementation.

For example, although a decision to virtualize the storage environment will stick to maintenance expenditures. Whatever they're cutting, Shiau says consensus is key.

Most Essential Tool: Centralized Security Management

You can't manage what you can't see. And in this age of cutbacks, data center managers are struggling to maintain coverage with fewer resources. Centralized security management tools allow today's leaner staff to maintain network security, despite growing complexity. One size does not fit all, but the trend away from enterprise-only solutions is well underway. Small to midsized enterprises can now take advantage of security-focused suites

that were previously only available to the largest organizations.

The timing couldn't be better, as ever-tightening compliance legislation increasingly makes data center oversight all but essential. Small company size and lack of budget won't fly when the auditors come calling. Centralized security management levels the playing field.

Making Staff Cuts

Continued from page 1

skills not on the baseline, or who are overskilled and expensive to retain compared to less-experienced colleagues, may be candidates for cutting."

With a list of mandatory IT projects and tasks, along with an inventory of existing skills, Perrier-Knox says the next step is to map employees to jobs. This exercise will likely expose some gaps and redundancies, but she says it's important to consider only the bare minimum required to get the job done. When assessing projects and employee skills, managers need to discriminate between "what has to be done vs. what's nice to have," she adds.

When it's time to identify specific people for dismissal, Perrier-Knox says that part-

timers and contractors are an obvious starting point. The list should also include employees with performance or attitude problems—a category that Perrier-Knox notes could contribute a silver lining to any layoffs. Should these groups be too small to meet staffing goals, the next targets for elimination should be those with commodity skills or who are overqualified for the remaining positions. She notes, "the best Cisco administrator in the world is still a dime a dozen commodity and readily replaceable."

Once the primary layoff candidates have been identified, Perrier-Knox says another group to examine is extraneous management. With fewer employees, it's likely that the span of control for some managers will be too narrow. She says that most IT

organizations target a range of five to seven direct reports for each manager, so those significantly below that level may no longer be needed.

While identifying the right people to cut is crucial, knowing which staff to keep is just as important. Perrier-Knox says people with scarce skills or specialized knowledge natural and maintain a sense of warmth and humanity—don't get overly emotional or build a wall of stoic detachment. Similarly, when talking with survivors, he says it's fine to express some personal thoughts and regrets, but he warns against a protracted mourning period. Managers should quickly move to get employees focused on their new

Identifying the right people to cut is crucial; knowing which to keep is just as important.

of critical legacy systems cannot easily be replaced and must be preserved, "If there is only one person on staff who understands how a critical piece of archaic code works, then they must be kept even if they're not among the best workers." Likewise, she says managers should keep those with diverse skill sets that can easily transition to new roles. Lest top contributors fear for their own positions, Van De Voort advises IT managers to ensure they understand their value to the organization.

Managed Communication Advice

It's important to have a communication plan and timeline when going through a layoff process, says Steve Peterson, communication consulting principal at Hewitt Associates, both to quash rumors that inevitably arise and to keep surviving employees focused on their jobs. He advises leadership to inform employees of who is leaving, why, the principles used in the selection process, and the measures being taken to forestall further cuts. Peterson says FAQs and talking points for frontline managers are effective tactics to ensure employees receive a consistent message.

When communicating with layoff casualties, Van De Voort says it's important to act responsibilities, he says, adding "Ambiguity is the worst feeling many of us deal with."

Layoffs can also trigger some legal notification requirements, says Van De Voort, particularly if totaling 50 or more in a given site or department. Dismissed workers also have protections for some benefits, such as continuing health insurance, retirement plans, and severance; therefore, Peterson advises companies to include their HR and legal departments in the layoff planning process.

Get Set For Success

Letting good employees go is one of the toughest, most distressing tasks any manager may face, yet in these precarious economic times, it's becoming all too common. "Orders could come down from company executives to cut headcount immediately," says Perrier-Knox. "If IT leadership doesn't make it happen, it could be their jobs on the chopping block."

By using fair, objective selection criteria and clearly communicating reduction goals, the selection process, and a company's metrics for future success, IT managers can position their departments to weather the storm and thrive when conditions improve.

Example Skills Assessment Metrics

Managers need to collect high-quality data by setting standard procedures for collecting objective and subjective metrics data and automating data collection where possible. Subjective measures should be ranked on a standard scoring system (for example: Excellent, Very Good, Good, Poor, Very Poor, Extremely Poor).

Metric Type	Data Type	Example
Technical skills	Objective	In the help desk area: Response time Call transfer rate
Management skills	Objective Subjective	 How many staff an IT manager supervises at one time How well the IT manager resolves personal conflict among IT staff
Soft/interpersonal skills	Subjective	 How approachable a particular IT staff member is by his or her colleagues How well an IT staff member treats his or her colleagues

Source: "How to Set and Use IT Staff Performance Metrics"; McLean Report: Research Note; Info-Tech Research; October 2008

Power & Cooling Must-Haves

Equipment, Communication & Expertise Are Key For Efficient Power Consumption & Cooling Systems

by Elizabeth Millard

CREATING AN EFFECTIVE STRATEGY around power and cooling in the data center involves some equipment expenditures, but simply putting new machines in place won't reduce expenses unless there's more management. For a comprehensive approach to power and cooling, here are the must-haves.

Long-Range Plans & Assessments

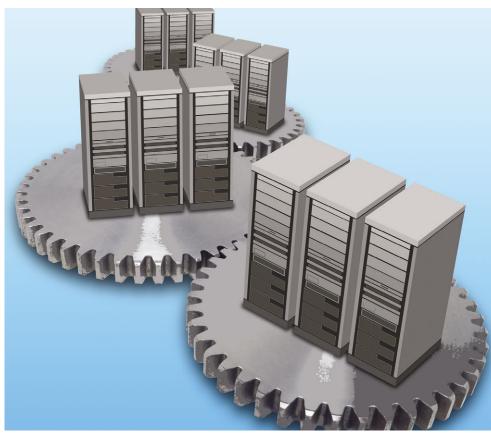
Some data centers approach power and cooling in the same way they do tech support: on an "as- needed" basis. This can lead to installation of multiple types of cooling, various energy usage monitors, and other equipment. The tactic might work for today, but it's not a long-term solution.

According to a recent survey by Emerson Network Power, a comprehensive energy strategy remains elusive for a majority of

Once a data center manager has a handle on how power and cooling elements work together, there can be goal setting centered on energy usage reduction. Strategies for that might include virtualization and other consolidation, using managed services, and streamlining storage, but it would be difficult to track usage reduction without first having a benchmark for measurement.

Regular Meetings With Experts

Although many data centers operate independently with data center managers essentially acting as facility managers, that's not always the case. Some data centers are housed in buildings where there are other offices and even other data centers. If that's the case, experts recommend regular meetings with facility directors—at least a couple of times per year—to chat about potential changes in the buildings and other issues.



enterprises, and only one in four respondents notes that they'd done an analysis of the efficiency of their data center equipment. Only 28% of respondents have a documented strategy to reduce energy usage.

This lack of long-range assessment and planning could be harmful to a center, particularly as power densities inside the center and within the rack are increasing so sharply. Emerson notes that 68% of respondents to the survey expect to be at capacity within the next three years.

"Sometimes, data center managers have no clue about what impact they're having in running servers and processes," says Chris Davis, global business development manager at TAC (www.tac.com), a firm owned by Schneider Electric that specializes in building automation, energy efficiency, and security.

Monitoring can help, but it's also vital to do an initial assessment of power usage, cooling costs, and other factors in order to gain an understanding of how the different components of a strategy work together.

"Systems are sometimes not well integrated, so there's energy waste," Davis says. "It's important to tie together the different pieces like incoming power, usage, and systems that measure processes."

be contemplating the resurfacing of a warehouse space roof. If the color of the new surface is darker than a previous coating, it could drive up cooling costs because the building would get warmer.

impact on power and cooling costs.

Similarly, data center managers should also check in with utility providers at least once per year, and more if there will be significant expansion in the center. Outside factors such as the development of new

For example, facilities management may

In these meetings, data center managers can also make a series of recommendations—such as lighter-colored roofing or roof gardens—that could have a significant

Key Points

- · Power and cooling strategies require awareness of current consumption levels and a way to track fluctuations in usage.
- Meetings should be scheduled with facility managers and utility providers to get a sense of changes in the building and the overall system.
- An expert on power and cooling—either cultivated in-house or at a consultancyshould be on hand to watch trends and news and articulate how they might relate to the data center.

warehouse space nearby could affect how much power is available. Keeping on top of what's happening in the immediate geographic area can be very helpful in creating long-term strategies.

To stay abreast of general equipment and usage trends, a data center needs to have either savvy in-house experts or a consultant that specializes in the area, says Davis. An outside expert could provide insight on how to bring various components together in a more effective way, he adds.

"You can monitor temperature [and] humidity and put in a bunch of environmental controls, but you also need a holistic view of the center," he says. "Sometimes, that involves increasing the amount of expertise on the topic, either through staff training or hiring a consultant."

Up-To-Date Equipment

In addition to solid plans, assessments, and expertise, it's imperative to make sure that equipment is running smoothly and as expected. Part of this tactic includes monitoring (see the "Most Essential Tool: Environmental & Usage Monitors" sidebar), but it also draws on regular replacement or upgrades of older equipment.

This doesn't necessarily mean ripping out air-conditioning systems if they're a decade old, but it does involve examining different components of a system to determine if they're still operating at top functionality, notes Dr. Joe Polastre, CTO and co-founder of Sentilla (www.sentilla.com), maker of energy management products.

"You want to do predictive maintenance at a level of granularity," he says. "For instance, you can find out when fans are blocked by looking at a power profile for a certain machine."

That type of management could mean the difference between buying a new server and purchasing a new fan with the associated labor costs.

Revamping equipment when its time is up is vital, as older machines tend to draw more power and need more cooling, but in today's economic environment, many SMEs will want to get as much life out of their equipment as possible.

Most Essential Tool: Environmental & Usage Monitors

In order to track power and cooling, data centers need to have effective monitor controls that not only issue reports about usage, but also give a holistic view of the entire center, says Bob Davis, president and CEO of Sentilla (www.sentilla.com). It's advisable to depend on one or two vendors that have a range of

products so that different sensors can match up and create a more robust usage profile.

"You really need to measure energy down to the equipment level, but you also need to put that information to use," says Davis. "Having monitors can help you tie usage to performance."

Internet Explorer still may have more than three times the market share of its next biggest rival, Mozilla's Firefox, but its lead is shrinking. According to Net Applications' HitsLink service, the Microsoft browser bundled with Windows continued its gradual downward trajectory last year, dropping more than five percentage points in market share from February (74.88%) to December

Are Enterprises

Moving Away

From IE?

(68.15%) 2008.

News

In the same time period, the free, opensource Firefox browser increased its user base from 17.27% to 21.34% of the market, a jump of more than four points. That's a smaller growth figure than IE's loss in real terms,

but it's a much larger leap in proportion to the browsers' respective market shares.

Meanwhile, Apple's cross-platform Safari browser continued to solidify its position as the third most popular browser, buoyed by its inclusion on the popular iPhone. Its February-to-December climb took it from 5.7% of the market to a respectable 7.93%. And Google's ambitious new Chrome browser, for which market share information first surfaced in September, grew from a 0.78% to a 1.04% share in four months. No other browser ended the year with a market share above 1%, including Opera.

Behind The Numbers

The news isn't all bad for Microsoft. Net Applications warns that its December results historically favor alternate browsers over Internet Explorer, mainly because more people take vacations over the holidays. This leads to a spike in Internet usage from the home, where Firefox, Safari, and others hold a greater share of the market than they do in the business world, where IT departments often standardize around IE.

"Our browser usage market share numbers indicate that while Firefox and Safari are making inroads in browsing in primarily residential but also commercial use, IE still is the dominant leader in both," says Vince Vizzaccaro, Net Applications' executive vice president of marketing and strategic relationships.

Going forward, Net Applications foresees that version 8 of Internet Explorer will continue the browser's reign as the top choice for the enterprise. "IE8 looks to have some great features coming, including Smart-Screen filter, InPrivate browsing . . . and Search Suggestions. Accelerators and Web Slices look to be intriguing new features, as well," says Vizzaccaro. "While some of these features are catching up to innovations from Mozilla and Opera, IE's strengths are still compatibility and security."

by Marty Sems

Study: Data Center Managers Struggle With Conflicting Goals

Data center managers struggle with the conflicting goals of providing a high level of performance and service while reducing costs, according to Symantec's 2008 State Of The Data Center report. In addition, the study found that data center staffing is a problematic issue, as is the underutilization of servers and storage and out-of-date disaster recovery plans. The report, which surveyed 1,600 data center managers in Global 5000 and large public sector institutions, also shows that many data centers are pursuing green initiatives because of the cost benefits. The Symantec report was conducted in September and October 2008 by Applied Research.

AVG Acquires Sana Security

AVG is expanding its Internet security portfolio with its recent acquisition of California-based Sana Security, which specializes in real-time behavioral threat detection and identity theft. AVG CEO J.R. Smith says Sana's real-time offerings will be a benefit because users need speedy threat protection. Sana's products protect a person's personal information, such as logins and passwords, financial information, and other critical data. The software protects by "learning" normal application behavior and eliminating abnormal behavior presented by malware attacks. Sana's employees, including Sana Labs, will be integrated into AVG.

Lexmark Cuts Jobs, Lowers Revenue Expectations

Printer manufacturer Lexmark made two big announcements recently, saying it expects fourth-quarter revenues to drop 17% from 2007's fourth guarter and that it will be cutting 375 jobs. The company says the drop in laser and inkjet hardware unit sales and currency rate shifts are the cause of its financial shortcomings. Lexmark says it should save about \$40 million through the cuts and cost reductions in the areas of general and administrative expenses, as well as sales support and the supply chain.

16 Governments Accept Open **Document Format**

The ODF (Open Document Format) is beginning to gain traction with governments, with Germany and Uruguay recently joining 14 other government adopters of ODF, according to the ODF Alliance. Microsoft also announced that it will support ODF with the Service Pack 2 update for Office 2007. The primary advantage of ODF for governments is that they will have access to documents and records in the future, without worrying that software manufacturers will discontinue support of the format. And because ODF will be supported by multiple types of business software, governments won't force businesses to use specific software.

RIM Extends Offer For Certicom

RIM extended the expiry date of its offer to acquire Certicom, a security specialist in the field of ECC

(Elliptic Curve Cryptography). Certicom brought appli-

cations before the Ontario

Superior Court of Justice and the Ontario Securities Commission to prevent RIM's offer from proceeding. Certicom also asserts that RIM violated confidentiality agreements, and it requested the Ontario Securities Commission to cease the trade order. RIM says it's extending the offer so the court and regulatory proceedings can finish in an orderly manner, within the context of RIM's offer. The total amount of RIM's takeover bid is about \$53 million.

Network Management Musts

What You Need To Manage Your Network On A Budget

by Chris A. MacKinnon

WITH TODAY'S ORGANIZATIONS relying heavily on networks to conduct business, effective network management has become a highly visible component of overall corporate strategy.

According to Peter Christensen, product marketing manager at Ipswitch (www.ip switch.com), at a time with more stress on budgets than ever, network management personnel have to do more with less and are looking to implement solutions that automate as much of their everyday jobs as possible so they can focus more on effectively managing their networks.

What You Can't Live Without

Christensen says that even in this fiscally challenged environment, there are certain things regarding network management that should not be shortchanged. "One of the key areas most impacted by time and resource constraints is documentation of the network," Christensen notes. "Even on the network is crucial to performing your job as an IT professional. When there is a network outage, you need to be able to immediately diagnose what went wrong or, even better, monitor trends so it doesn't happen in the first place."

Mark R. Hinkle, vice president of community at Zenoss (www.zenoss.com), says without first knowing the status of elements in a data center, it's impossible to provide reliable service. Hinkle explains, "It would be similar to baking a cake without knowing the temperature of the oven—requiring pure luck to provide a good result. Not only do you need to know the status but ideally the relationship between elements in the network. For example, is a server located behind a firewall or a router? What server hosts an application?" Hinkle says beyond status, IT and data center managers need to understand performance of the network not just whether an element is available, but how well it's working.

According to Ipswitch's Christensen, actionable information is yet another area

> that network managers cannot do without. He comments, "Every day, network managers are bombarded with hundreds if not thousands of pieces of information on the status of their network infrastructure. Timely information is invaluable, but if you can't make sense of the data, what good is it?" He says some network managers may use a number of different products with different management consoles to manage and monitor distinct aspects of their infrastructures. However, in Christensen's opinion, all these independent point products

can create issues in effectively managing status, as well as understanding and locating problems quickly.

Without the data to support infrastructure upgrades or build out investments, Christensen says, lots of network managers would still be working with antiquated networks. "Reporting is an essential function of network management solutions as it brings not only real-time data about the status of the network so you can view short duration information but also the trend data," he says. "Without detailed reporting, network managers cannot ascertain how their networks are performing." He says understanding how the network is used is the most important indicator of where it will need attention in the future.

- IT professionals need to see at a glance how the network is performing.
- · Understanding network and resource utilization is also key, as problems can be misdiagnosed if traffic bottlenecks or high bandwidth consumption are overlooked.
- The key to looking for what to cut is looking at what you are currently paying to maintain.

Christensen says it boils down to understanding network and resource utilization. He notes, "Without detailed insight into how the network is being used, [trying] to understand where traffic bottlenecks exist or where bandwidth consumption is higher than normal can sometimes lead to misdiagnosis of problems."

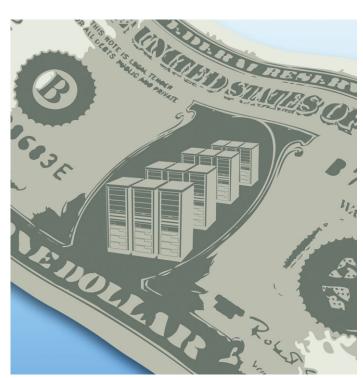
What You Can Live Without

Just as there are areas in which network managers shouldn't cut corners, there are also some aspects where compromises can be made.

SolarWinds' Stephens says there are a number of items that network managers can do without. He says, "Let's start with element managers. In many cases, you can do without the hardware vendor's element manager and instead rely on your network management system provider for this functionality. Consider also root cause analysis applications: For most companies, this is a pipe dream that they'll never actually bring to fruition. And then there are off-the-shelf configuration management databases; most companies that are successful in this area are using a homegrown system." Stephens adds expensive network management suites to the list, which he says sometimes take years to deploy, are complex, require expensive consultants, and "aren't used by anyone in the organization anyway."

Stephens says the key to looking for what to cut is figuring out what you are currently paying to maintain. "Is the product under maintenance still deployed in the network, and are you getting any value from it? If not, stop paying for it and look for an alternative," he says. "There are enterprise-class alternatives out there whose price and ongoing maintenance costs might actually be less than the maintenance on your current option."

Zenoss' Hinkle says that for network managers, the critical bottom line is having the ability to understand what's going on in their data centers in real time and tying that to their business needs. He concludes, "It allows network managers to apply their knowledge and skills to best run their operation. If they have too much IT, or at least are unable to account for the state of that infrastructure, it will render one of their biggest investments-information technology-ineffective and will be a drag on overall productivity."



under normal circumstances, network managers are at least two steps behind in documenting their infrastructure. Having network topology information and device connectivity presented in an integrated manner simplifies downstream tasks that network managers must wrestle with every day, including proactive monitoring, pinpointing and troubleshooting issues, measuring and reporting on network availability, and assessing network performance."

Josh Stephens, director of technology and head geek at SolarWinds (www.solar winds.com), says one of the best ways to think about what is really important is to contrast with what makes it worthless. Stephens says there are two key requirements in this regard: First, does the process or solution provide immediate value? And second, does it need only minimal care and feeding (almost zero or none)? He says if the answer to both of those questions isn't an unequivocal yes, then you should drop it immediately.

"For IT pros tasked with managing networks, the top necessity that fits both of those requirements is visibility into network performance," says Stephens. "Being able to see at a glance the performance of network devices, servers, and applications

Most Essential Tool: Centralized Management Console

According to Peter Christensen, product marketing manager at Ipswitch (www.ipswitch.com), network management means having network information at your fingertips. "Instead of having to assemble information and correlate events

from different consoles," Christensen says, "a single solution that consolidates the thousands of bits of data from devices, servers, interfaces, NetFlow and VoIP, and other sources into a single perspective of the network is vital."

PRODUCT OF THE WEEK

A Silver Bullet

Condre's New RAID Solution Meets Data Centers' High-Capacity Storage Needs

by David Geer

MULTIPLE STATE, FEDERAL, AND INDUSTRY compliance regulations are requiring data centers to store increasing amounts of information. Sarbanes-Oxley alone compels organizations to store business data and electronic communications for five years. In the meantime, email attachments, business documents, and other unstructured data are multiplying in size and number, and SMEs with limited physical space and fewer technical staff are feeling the pinch even more.

To stay ahead of these demands, data center managers need storage with high capacity, reliability, and bandwidth. They need devices that are small in footprint and big on ease of management. As hard drive storage increases in reliability and capacity while maintaining its modest size—take 1TB 3.5-inch SAS drives, for example—the RAID arrays that combine

CONDRE STORAGE SOLUTIONS

PRODUCT OF THE WEEK

The Bullet A/V Optimized RAID Series

Description: This A/V-optimized disk array offers redundant active/active or dual independent controllers; dual independent firmware; RAID levels 0, 1, 5, 6, 10, 50, and 60; drive roaming support; hot-swappable and multiple hot spare drive support; and support for high-capacity data streams.

Interesting Fact: Read speed is 598.5MBps based on Condre's Blackmagic performance benchmarking data.

(952) 294-4900 www.condrestorage.com them are growing in popularity as an effective means to extend SANs and address data expansion.

Vendors recognizing the opportunity are perfecting the RAID platform by building in redundancies, added throughput, and sophisticated storage management tools. In an effort to appeal to data centers' needs for equally fast hard drive read and write times, vast streaming data throughput, and exceedingly large graphic file handling, vendors

such as Condre Storage (www.condrestorage.com) have created an adaptation of RAID arrays suited to other key storage issues.

"Many RAID systems perceived to be only for A/V purposes excel [in] streaming large files and database backups. A/V-optimized RAID is great for the large and massively

parallel reads and writes these applications require," says Greg Schulz, senior analyst at StorageIO. These units eliminate many of the performance issues that nag data center managers while providing affordable additions to existing storage. The larger-capacity drives that are common in these systems also increase performance and data manageability.

Meeting Storage Needs In One Shot

To meet the increasing storage needs across many different industries, Condre Storage created the Bullet, a high-caliber, A/V-optimized RAID product based on the S16F-R1430 RAID model. The Bullet brings superior speed, expandability, and ease of management to data center storage, notes Denny Maetzold, president of Condre.

The Bullet offers better performance to data centers by streaming large files in and out of databases, explains Harry Montanye, Condre's senior storage engineer. With its specially tuned firmware, which does not require manual configuration, the Bullet reliably supports three streams of 10-bit HD video and other large file streaming. By combining two units striped together with four logical drives, the product will support seven streams of 1080p (uncompressed). This makes the product effective for applications such as

streaming database backups, Montanye explains.

The product comes with dual SES (SCSI Enclosure Services) controller modules with 4-Wide SAS connections (two in and two out). This dual-controller, active/active configuration provides controller redundancy, so if one controller goes down, data center managers can continue working through the other controller with no loss of time, data, or access to full storage capacities, Maetzold explains. "With 4-Wide SAS connections, the product is upgradeable to 64TB on one system," says Montanye.



A view of the Bullet's silver, lockable 2 x 8 drive tray configuration.

The standard unit is a 12TB configuration, but with the main RAID unit and three expansion enclosures, the product offers up to 64TB of storage (using 1TB drives). The product supports both SATA and SAS drives, simultaneously if desired. It also includes one SAS expansion port for each controller.

Maetzold believes the Bullet "outperforms the competition in every situation." With four 4Gbps Fibre Channel connections per controller, the Bullet expedites data transfers with haste. The 750GB or 1TB (optional) SAS and/or SATA II drives offer fast read/write speeds. Dual firmware is dedicated to data reads and writes of almost equal velocity. The Bullet reads data at a rate of 598.5MBps and writes data at a rate of 597.1MBps, per the Blackmagic Benchmark data provided by Condre.

Versatile & Secure

Management options for the Bullet include embedded SANwatch storage management and monitoring software (SnapShot technology is also available). The product dispatches event alerts via email, fax, LAN broadcast, SNMP traps, MSN Messenger, and brief SMS (text) messages, which is vital to the data center for notifications about the Bullet's status and condition or RAID errors. The data centers may then respond and manage the

product from any computer on the network through a Web browser or via Telnet, explains Montanye.

The SSL (Secure Sockets Layer) protocol ensures secure TCP/IP network connections. Additionally, lockable drive trays prevent theft and curb temptation, and all drives are shipped separately in shock-resistant packaging.

The Bullet's other features include computer-free configuration through an LED control panel and ample power and cooling resources thanks to a redundant hot-swap power supply and cooling modules. 2GB of memory cache per controller come standard. The Bullet also uses drive cloning and replacement technology for failing drives, which is faster than RAID rebuilds.

"This gives data center managers the option to gauge RAID status through the

LED without leaving the computer center to locate a PC to do it on," says Montanye. The LED control panel enables all the same management functions that a PC does. It also enables technicians to build a RAID array in less than 10 seconds, Montanye says. The LED also serves as a visual aid

to people working in the trenches directly with the hardware.

The product ships in RAID 5 with a 2 x 8 drive LUN (Logical Unit Number) configuration, and the controllers run in nonredundant independent mode by default for high-performance read and write task execution. Condre has included manuals, visually oriented training modules, product benchmarks, tips for configuration and usage, and scripts that automate certain tasks on CD.

All-Around Performance

The 12TB Bullet includes one year of onsite service and three years of RTF (return-to-factory) warranty. It is easily configured through its front-mounted LCD panel or its intuitive GUI application. The display renders all-inclusive management information via text. Condre offers the product in its standard 16-drive 12TB model with 750GB drives as well as a 16-drive 16TB model with 1TB drives. The product will offer 2TB SAS drives later this year.

This powerful, cost-effective A/V RAID series is available through Condre direct resellers. "This represents a tremendous price advantage for the same basic product that the chief competitor is offering right now," says Maetzold, who adds that users are pleased with the silver trays.



Do you have a new product that data center/IT managers would be interested in learning about?

Send your press release or related product information to press@processor.com.

CLIENTS

■ Agilysys NextManager

Agilysys has announced the integration of its NextManager solution with Evolution Robotics Retail's LaneHawk to help provide retailers with an increased level of BOB (bottom-of-basket) security. The two products work together to override the register's display. The override triggers an alert to NextManager, notifying managers of nontendered merchandise before it leaves the store, whether the BOB merchandise is left due to theft, forgetfulness, or lapses in training.

■ D-Link SideStage

D-Link has announced the release of a 7-inch monitor that connects to a computer via



USB 2.0, enabling users to extend their desktop and free their main monitor for productivity documents. The LCD monitor features an 800 x 480 resolution, with both landscape and portrait

modes. It weighs less than 2 pounds and is only 3/4-inch thick. The SideStage is compatible with CRT and flat-panel monitors, features standard and widescreen aspect ratios, has 32-bit True Color, and is consistent with the D-Link Green initiative.

■ Datamax Remote Management Software

Datamax has announced the release of RMS (Remote Management Software), a tool that allows a company's 802.11-equipped portable network printers to be managed from a Windows Desktop. RMS enables users to monitor printer status, create packages to update printers, and remotely initiate update processes for a single or entire population of network printers. RMS is designed for Datamax–O'Neil 802.11-equipped portable printers, including microFlash printers, O'Neil Compact printers (OC2 and OC3), and the LP3 label printer.

■ Dell G2210 & G2410

Power savings is the name of the game for two auto-adjusting flat-panel monitors from Dell. The G2210 and G2410 are widescreen displays illuminated by LEDs instead of CCFLs (cold-cathode fluorescent

lamps), so they typically consume only 18W and 20W, respectively, during use. The G2210 (\$279) is a 22-inch, 1,680 x 1,050 model, and the G2410 (\$359) is a full HD, 1,920 x 1,080 display in a 24-inch screen size.

■ Honeywell Dolphin 9950

Honeywell unveiled the Dolphin 9950 mobile computer, an ergonomic pistol-grip mobile computer ideally suited to the demands of data capture and information management. The Dolphin 9950 is built around Windows Mobile 6 and features integrated application and data access technology, advanced Adaptus Imaging Technology for barcode scanning and picture taking, a redesigned keypad available in three configurations, 10-plus hours of battery life, and a rugged exterior designed to survive 5-foot drops to concrete. Specs include an Intel PXA 270 624MHz processor with 256MB RAM, 1GB flash memory, integrated 802.11b/g, and Bluetooth.

■ Honeywell MS7580 Genesis

Honeywell also released its MS7580 Genesis area imaging scanner for retail applications. The MS7580 Genesis



kits support EAS (electronic article surveillance) deactivation, effectively reducing the two-step retail check-out experience to a single swipe. The MS7580 Genesis supports both Sensormatic EAS systems and Check-point radio frequency

EAS systems. The offering is capable of reading 1D and 2D barcodes, a variety of OCR fonts, and even digital images. Other features include advanced motion tolerance for faster swiping and Honeywell's Total-Freedom architecture for easy deployment.

■ Honeywell Remote MasterMind

In addition, Honeywell launched its ReM (Remote MasterMind), a remote scanner management package that lets users manage all networked scanners from any remote location. ReM is a UPOS-compliant Web-based offering that supports more than 20 Honeywell Scanning and Mobility products. ReM also supports IBM's Remote Management Agent and IBM Director. Features include asset tracking, firmware upgrades, configuration updates, scanner diagnostics, and performance metrics

■ Lumigent Technologies AppGRC For PeopleSoft Financial Management

Lumigent Technologies has announced AppGRC for PeopleSoft Financial Management, an automated GRC control application for Oracle's PeopleSoft Enterprise Financial Management Solutions. The

LUMIGENT

application is designed to help CFOs, controllers, and other business users drive down the costs of compliance reporting and other GRC requirements for their PeopleSoft Financial installations. It is preconfigured to monitor the most critical application data and can be up and running in days rather than months. Features include baselining to

 $Go\ to\ Page\ 12$

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unauthorized remote access to company workstations. Only a computer with an employee's personal SecureKEY inserted into its USB slot can be used to remotely access the employee's workstation in the office. Even if the employee's remote access login password were compromised, unauthorized access would not be possible because the SecureKEY would not be present.

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SECURITY **DECEMBER 5, 2008**



Portable Surveillance Gets Rugged

DNF Security JetX

Portable surveillance is a powerful way to maintain security in rough environments. Whether it's a construction site in a remote location or the scene of an emergency, portable surveillance provides crucial help when it's needed most. DNF Security's JetX surveillance solution is ideal for mobile, offsite monitoring and recording.

The series of devices includes three models with rugged systems designed to work in severe conditions with no interruption. The units each have one 15-inch or three 17-inch high-resolution LCD displays and an open platform for better compatibility

with equipment such as cameras and video management software.

The triple-screen systems support

DNF SECURITY up to 3TB of storage. All JetX

systems feature a built-in high-resolution

and a rolling carrying bag.

display, integrated keyboard and touchpad,

The JetX M-Powered product features a

battery-powered system designed to provide

long-lasting power in off-road applications

and is also available in hybrid editions. The

hybrid editions support up to 32 analog and

eight IP cameras. Single-display JetX

systems feature 2TB of internal storage

capacity and a dual-core Xeon processor.

Product Releases

Continued from Page 11

combine continuous monitoring of key controls with an easy-to-read master report, reporting templates, a command-line interface that can be used to automate tasks related to automating controls, and a complete policy-driven audit trail.

■ Palm webOS

Palm released its webOS mobile platform, as well as the Palm Pre—the first phone based on the Palm webOS platform. The Palm webOS is a platform exclusively for mobile use, and it resides on your phone, at your work, and on the Web. The webOS provides you with one integrated view to simplify access to the information. The Palm Pre and webOS are designed to be in sync. If you have the same contact listed in your Outlook, Google, and Facebook accounts, the webOS' Palm Synergy feature will link the information and present it to you as one listing. Palm Synergy also places all your conversations in the same chat-style view, even if the conversations occur in different messaging formats.

■ Psion Teklogix PrintAbout MLP2020 & MRP2020

Psion Teklogix has announced details concerning two 2-inch, 12-ounce mobile receipt and label printers that are part of the company's PrintAbout series. Psion Teklogix says the printers are the lightest 2inch mobile thermal printers available industry-wide, making them ideal for retail, warehousing, transportation, public safety, healthcare, and field-service purposes. The printers support ZPL, CPCL, OPDL, IPL, MPL, E-SIM, EXPL, and TEC print languages; are built to withstand 4-foot drops to concrete; include Wi-Fi, Bluetooth, and IrDA abilities; and provide 3,500-plus printed inches per charge. The printers include 4MB flash and 8MB SDRAM onboard memory, a universal connectivity port to attach barcode scanners and signature capture pads, and three-track simultaneous read magnetic card reader for POS apps. The printers will ship April 30.

■ Tyco Electronics Elo TouchSystems 15D1 **All-In-One Touchcomputer**

Tyco Electronics' Elo Touchsystems announced the 15D1 All-In-One touchcomputer designed to be versatile, highly functional, and designed for use in small to medium-sized retail and hospitality businesses. The 15D1 is designed to have a small footprint with industry-leading performance, enhanced field serviceability, and more connectivity options. Features include the availability of a broad range of POS (point-of-sale) peripherals, easy additions or upgrades, a range of input/output port connection options to allow virtually any POS configuration, and support for third-party peripherals such as cash drawers and printers.

MESSAGING & TELEPHONY

■ IBM Lotus Notes 8.5

IBM announced the availability of Lotus Notes 8.5, collaboration software with social computing features for all Mac OS X Leopard-powered computers. In addition, IBM's free Lotus Symphony document, spreadsheet, and presentation software will be available later this month for the Mac. Lotus Notes 8.5 provides significant storage savings over previous versions. Notes has an intelligent storage savings feature that ensures only one copy of an attachment is kept on the mail server. Lotus Notes 8.5 includes a user-friendly interface that arranges all collaboration tools on one screen. The interface shows links to team rooms, instant messaging, to-do lists, calen-

dar, Internet browsers, and other tools. IBM also announced that its business-focused software will be released for Apple's OS and the PC, whereas previous software versions had been published as late as a year after the Windows version.

■ Quest Software Coexistence Manager **For Notes**

Quest Software has released an addition to its migration solution products, called Coexistence Manager For Notes, which the company says lets organizations use IBM Lotus and Microsoft Exchange Server simultaneously while migrating from Notes to Exchange or during a prolonged coexistence scenario without disrupting user activities. Quest says when combined with



its Notes Migrator For Exchange product, Coexistence Manager For Notes provides this migration through high-fidelity email, calendaring, and document hyperlink coexistence, effectively reducing administrative and help desk chores. Quest also released a version of Notes Migrator for SharePoint that adds discovery and analysis, project management, SharePoint site provisioning, and improved QuickPlace migration support. Coexistence Manager For Notes is available starting at \$10 per mailbox.

NETWORKING & VPN

■ 2X Software 2X Application Server 6.2 & 2X Virtual Desktop Server

2X Software has announced 2X Application Server 6.2 and 2X Virtual Desktop Server (beta), which includes two-factor authentication provided by Deepnet Security. These programs are designed for enterprises that need secure remote access, but also need to block unauthorized access to the corporate network. Two-factor authentication requires a security layer in addition to a password to thwart unauthorized users. This program requires not only a password, but something users physically have, such as a hardware token, a USB flash drive token, or a virtual smart card, among other options, in order to access the corporate network.

■ Acresso Software FLEXnet Manager

Acresso Software has added enterprise applications and back-office software to the FLEXnet Manager (version 12) usage monitoring capabilities, such as Oracle databases. This will provide enterprise IT a more precise report of an organization's use. Other features, such as better reporting via Cognos-based analytics, help companies allocate resources more efficiently, while also helping them make planning and purchasing decisions. These new features are designed to cut costs regarding optimal license utilization, while also decreasing compliance risks.

■ BVS Beetle-BANG

BVS has announced the release of Beetle-BANG, a wireless test receiver system that verifies, sweeps, measures, and optimizes 802.11 Wi-Fi standards. When the Beetle-BANG is equipped with a DF (directionfinding) antenna, it can locate rogue MACs, APs, STAs, and SSIDs, and it has analysis features such as Delay Spread, CFR (channel frequency response), Multipath (Ec/lo), and SNR (signal-to-noise ratio).



■ CA NetMaster Network Management & SYSVIEW Performance Management r12

CA has released the systems CA NetMaster Network Management for TCP/IP r11.6 and CA SYSVIEW Performance Management r12, which are designed to decrease the complicated nature of mainframe-based services. These systems are designed to work with IBM mainframes and are available through electronic software distribution, which enables users to install them directly from local DASD and eliminates the need to make a tape cartridge. Specifically, the CA NetMaster Network Management for TCP/IP r11.6 is engineered to work with IBM's EE (Enterprise Extender) technology, and features what CA calls "exceptionbased diagnostics" for r11.6 in order to show hidden EE problems and allow IT to do a better job of safeguarding application availability and performance.

■ Cisco Aironet 1140 Series Access Point

Cisco has introduced Cisco Aironet 1140 Series Access Point with Wi-Fi certification and 802.11n Draft 2.0 technology. Aironet 1140 Series Access Point is a dualradio platform that mixes 802.11n Draft 2.0 technology with standard 802.3 as Power over Ethernet. Additionally, the access point includes Cisco M-Drive Technology, which is a system-wide set of features of the Cisco Unified Wireless Network, and is engineered to boost wireless coverage and capacity, as well as optimize device connections. Aironet 1140 Series Access Point also includes ClientLink. As part of Cisco M-Drive technology, ClientLink lengthens the life of 802.11a/g tools and betters the performance of new 802.11n tools, according to Cisco.

■ IGEL Technology Citrix XenDesktop Appliance Mode

IGEL Technology has announced a feature for its Universal Desktops based on Windows XP Embedded, the Citrix Xen-Desktop Appliance Mode. It is designed to allow Windows XP Embedded users who are deploying virtual PCs with XenDesktop to get an ideal PC-like experience using IGEL thin clients. The Citrix XenDesktop Appliance Mode lets end users switch between a traditional IGEL Universal Desktop and a locked-down appliance for accessing a virtual PC delivered by XenDesktop with a single mouse click. Deployment is designed to be simple, requiring a customer to simply plug a network cable into an IGEL device and log on to Windows.

■ LinMin Bare Metal Provisioning 5.3

LinMin has announced LinMin Bare Metal Provisioning 5.3, an application that lets you remotely and natively install Linux and Windows operating systems and applications on servers, blades, PCs, appliances, and virtual machines. Release 5.3 features an enhanced user interface that is designed to make it easier for first-time users to remotely install Linux and Windows on servers, blades, workstations, and virtual machines within minutes of downloading the product. Other features include provisioning support for recently released or soon-to-be-released Linux distributions, including 32-bit and 64-bit versions of Red Hat Enterprise Linux 5.3, Novell SUSE Linux Enterprise Server 11 and 10 SP3, Ubuntu 8.10, Fedora 10, OpenSUSE 11.1, and CentOS 5.3, as well as 64-bit versions of Windows Server 2003.

■ Nortel Ethernet Routing Switch 5600

Nortel has released the Nortel Ethernet Routing Switch 5600 for high-capacity deployment networks. Stackable switches offer unified communications, and the ERS 5600 series provides enhanced stacking performance, increased capacity, and advanced resiliency. The 5600 series is compatible with ERS 5500. Additionally, this latest release comes equipped with 10 Gigabit uplink capacity.

■ ToutVirtual VirtualIQ Pro 3

ToutVirtual has released the VirtualIQ Pro 3, a management and automation program the company says is designed to support customers throughout all stages of deploying virtualization environments, including from the planning phase to creating virtual server rooms running hundreds of virtual machines. ToutVirtual is offering a full-featured version of the software that supports as many as five CPU sockets or 25 virtual machines for free. The software includes a new user interface, server virtualization assessment, asset management, performance management, capacity management, and reporting. ToutVirtual says the console can support Citrix, Microsoft, Oracle, VMware, and Xen platforms. Paid versions of the software, which support unlimited CPU sockets and virtual machines, start at \$199 per socket per year.

■ Trendnet TEW-654TR

Trendnet has released what it calls the world's smallest 300Mbps Wireless N Travel Router kit. Sporting the model name TEW-654TR, the router (2.5 x 3.25 x 0.75 inches) is small enough to fit in a front pocket, Trendnet states. The company ships the router with a carrying case, 3-foot Ethernet cable, electric adapter, and USB cable to power the TEW-654TR via a com-



puter. The router sports an LED that shows power and link statuses, a reset button, power outlet, and 10/100Mbps Ethernet port. Internally, the router includes encryption security and advanced MIMO antenna technology that Trendnet says can deliver high-speed wireless connections and broaden coverage to reduce dead spots.

■ Trendnet TEW-673GR

Trendnet has also launched the TEW-673GR, which it describes as a high-performance 300Mbps concurrent dual-band wireless N Gigabit router. The router includes the Atheros Xspan AR9002AP platform that offers an AR9220 and AR9223 Xspan dual-band radio chipset, which Trendnet says can support advanced multimedia apps with wireless coverage. Combined, Trendnet says the router can deliver up to 12X throughput and more than double the coverage of a wireless G router. The Xspan dual-concurrent technology supports up to 300Mbps physical data rates and 200Mbps actual user throughput on uplink and downlink transmissions. Additionally, the Atheros platform includes Atheros' 680MHz AR7161 wireless network processor and AR8316 Gigabit Ethernet switch.

PHYSICAL INFRASTRUCTURE

■ Aperture VISTA 600

Aperture has unveiled a new version of Aperture VISTA 600. This new version will include a redesigned user interface,



including operational dashboards and a new navigation system. According to Aperture, VISTA 600 is designed to provide Go to Page 14



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Continued from Page 13

IT personnel with instant insight, in-context information delivery, better usability, and enhanced virtualization. VISTA 600 was also created to cut the costs and complexities of data center management.

■ Chloride ConditionOne

Chloride has announced its line of ConditionOne single-phase power conditioners, which are designed to boost reliability of computers, retail PoS (point-of-sale) equipment, and manufacturing systems. ConditionOne is available in 120/230V, 50/60Hz, and 75 to 1000VA. The line is engineered to be compact and user-friendly. The conditioners have isolation transformers to get rid of electrical noise, as well as optional ONEGROUND technology to fix ground skew issues. Additionally, ConditionOne caps the top voltages (amplitude) and edges the speed (frequency) of electrical transients.

■ Emerson Liebert PSA & PSI-XR UPS

Emerson has announced enhancements to its Liebert PSA and PSI-XR UPS units for home offices and small data centers or IT rooms. The UPS units each provide more than five minutes of battery backup at full load and offer optional external battery cabinets to extend backup runtime. The PSI-XR is best for IT applications; it is available in rack-mounted or tower configurations and can be configured at 110VAC, 120VAC, or 127VAC with a variety of output capacities. The PSA is best for home and small office settings; it features advanced shutdown, surge protection, and status monitoring and is available with various output capacities in both 120VAC and 230VAC models.

■ HP T750 G2, T1000 G3 & T1500 G3

HP introduced a line of tower UPSes to protect computer equipment and critical data against damage due to inconsistent and fluctuating power. The HP Tower UPS units include the T750 G2, T1000 G3, and T1500 G3 and are designed for small to midsized enterprises, remote offices, and retail environments needing power protection in a compact tower design. The interactive UPSes have power ratings of 750VA, 1000VA, and 1400VA. HP Power Manager software is included with all HP UPSes and provides the flexibility to monitor power conditions and control the UPS locally or remotely. The software enables broadcast alarms, orderly shutdowns in the event of a power failure, and scheduled power-on to the UPS and attached equipment.

SECURITY

■ Cyberoam CR200i & CR300i

Cyberoam has launched the CR series of UTM appliances, CR 200i and CR 300i, which is designed to create a complete list of appliances that feature high ROI. CR200i and CR300i use multicore processor technology so that Cyberoam security appliances can deliver high UTM throughputs in comparison to hardware-based ASIC solutions.



■ D-Link Network Surveillance Products

D-Link's new NVRs (network video recorders) are based on the company's two-drive NAS units. Key features of the DNS-722-4 (\$399) and DNS-726-4 (\$699.99) are Power over Ethernet, dynamic DNS, motion and digital signal triggers, coordinated control of multiple cameras, and SATA RAID. Also available is the DNS-726-4 NVR Pro, which is compatible with IP cameras from Panasonic, Sony, Axis, and D-Link. On the business end of D-Link's network surveillance offerings are two new IP-enabled video cameras with 16X digital zoom. The DCS-1130 uses 802.11n wireless technology with support for WPS and can link to the network via Ethernet, as well. Its DCS-1100 brother uses Ethernet only. Both cameras can stream live video to a 3GPPenabled, RTSP (Real Time Streaming Protocol)-compatible device, such as a smartphone or PDA.

■ Hypercom HyperSafe Remote Key System

Hypercom announced the release of its HyperSafe Remote Key System, a standards-based remote key injection product that allows retailers to quickly and securely initiate onsite, in-store payment terminal key injection at the PoS (point of sale). The system is designed to offer a fast and secure alternative to the industry's traditional secure room key injection process and eliminate the need for offsite secure room key injections by incorporating PKI (Public Key Infrastructure) to securely distribute symmetric 3DES keys. The system features a Futurex Excrypt KMS9000 key management server that is X509-, FIPS 140-2 Level 3-, and PCI DSS (Pay-



ment Card Industry Data Security Standard)-compliant, as well as specific functionality developed for Hypercom.

■ NitroSecurity NitroView

NitroSecurity announced the integration of database activity monitoring and secu-

rity information management into Nitro-View. This solution combines the technology of NitroView ESM (with SIEM technology) and NitroView DBM (database monitoring). With NitroView, companies can meet compliance regulations through logging PIN access, cardholder information, and critical data. The NitroView DBM start kit is available for \$25,995; it includes one appliance and five database licenses.

■ Novell Access Manager 3.1

Novell has unveiled its latest version of the Novell Access Manager 3.1, which supports WS-Federation for safeguarding business data. The program lets non-Windows directory users and organizations receive single sign-on permission from IT administrators to Microsoft Office SharePoint and similar programs. The Novell Access Manager amalgamates LDAP directory identities and Microsoft infrastructures to save resources and time. By safeguarding Web-based asset sharing, Novell Access Manager 3.1 enables enterprises to centralize and authenticate management.





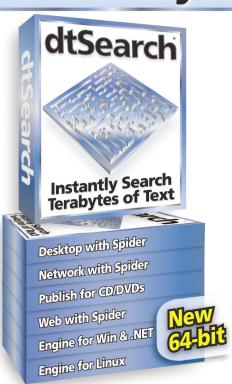
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■ SafeNet Encryption & Key Management Security Solution

SafeNet has released its encryption and key management security solution for retailers that require PCI DSS (Payment Card Industry Data Security Standard) compliance. SafeNet's security solution enables merchants to meet PCI DSS requirement No. 3: protect cardholder data. To ensure that the cardholder's information is secure, SafeNet uses EDP (enterprise data protection) to assist with multivendor management. Retailers are given the flexibility to choose particular security controls that match the company's data protection plan.

■ WatchGuard 3G Extend

WatchGuard has launched the Watch-Guard 3G Extend, a modular device the company says complements and extends the abilities of its unified threat management family of network security appliances. WatchGuard says the new product is designed for enterprises in need of



high-speed WAN connectivity in locations where wired broadband is unavailable or too expensive, such as remote or temporary offices, standalone retail outlets, kiosks, ATMs, police vehicles, trains, and long-haul trucks. The 3G Extend functions as a 3G wireless bridge that provides Internet connections to WatchGuard UTM network security appliances. Additionally, it supports more than 50 cellular radio modems from more than 2,000 ISPs and supports CDMA, EDGE, EVDO, GPRS/UMTS, and HSDPA high-speed cards. The 3G Extend is priced at \$280.

SERVERS

■ Supermicro 5035L-iB & 5046A-XB

A new server for the SOHO market has debuted from Supermicro. The storage-oriented 5035L-iB features the company's X7SLM-L single-CPU mainboard, an 85% efficient power supply, onboard Intel GMA 950 graphics, 4x SATA RAID, and dual Gigabit Ethernet. Meanwhile, the 5046A-XB is a high-end desktop with an Intel Core i7 processor, triple-channel support for up to 24GB of DDR3-1600, and support for both CrossfireX and SLI in dual x16 PCI-Express graphics slots.

STORAGE

■ Buffalo TeraStation Duo & TeraStation III

Buffalo announced the release of Tera-Station Duo and TeraStation III, two new SME network storage solutions. Both storage devices feature higher capacities, enhanced backup speeds, and hot-spare and hot-swap capabilities. The TeraStation Duo includes a two-drive bay and new backup features, such as replication and support for Mac's Time Machine. Both storage devices offer Buffalo's Web Access feature for remote access to all data stored on the devices and also feature two Ethernet ports and internal flash boot. Each device is also more eco-friendly, according to the company, with reduced power consumption and carbon dioxide emissions.

■ Fujitsu ETERNUS8000

& ETERNUS4000 Storage Systems

Fujitsu introduced its new Fujitsu ETER-NUS8000 and ETERNUS4000 storage systems, which are targeted to meet the demands of medium-sized and large organizations. The ETERNUS8000 and ETERNUS4000 storage systems feature intelligent



cache management, MAID (massive array of idle disks) technology, disk-data encryption, WAN optimization, and support for quad-core processors. Both offerings also include ETERNUS SF, Fujitsu storage management software. The ETERNUS8000 and ETERNUS4000 are available, with ETERNUS4000 starting at \$39,000 when configured with dual controllers, dual power, and four Fibre Channel server connections, five 146GB drives, and ETERNUS Storage Manager.

■ Fujitsu HandyDrive MMH2

Fujitsu announced the ultra-slim, lightweight HandyDrive MMH2 5400 RPM external hard disk drives. The new USB-interface drives weigh under six ounces, come in a 2.5-inch form factor, and offer capacities up to 500GB, making them ideal for backup and additional storage for home PCs and laptops. The Fujitsu HandyDrive also features partition management software, a password lock tool, and Acronis True Image Personal HDD software. The

HandyDrive will be available sometime in Q1 of this year.

■ Iron Mountain Digital CloudRecovery

Iron Mountain Digital and Microsoft have partnered to support organizations that use Microsoft System Center DPM (Data Protection Manager) 2007 (Service Pack 1) with long-term protection and secure recovery of corporate data. The resulting backup and discovery product is CloudRecovery, which is designed for short- and long-term secure offsite storage. CloudRecovery will provide automated, reliable backup and archive of DPM-protected data online and will be available to customers early this year.

■ Kroll Ontrack PowerControls 5.1

Kroll Ontrack released Ontrack Power-Controls 5.1, software compatible with Microsoft Office SharePoint Server 2007 that allows IT administrators to search and restore items from a SharePoint database. Administrators familiar with Ontrack PowerControls software for Exchange can apply the same time- and cost-saving recovery capabilities to the ECM (enterprise content management) application. Ontrack PowerControls for SharePoint enables users to restore to the original or alternate SharePoint locations, allowing restoration directly into a production SharePoint server or to a file system. There's also an advanced search feature that searches across all content databases. Administrators can target a variety of criteria, including item type, keywords, subject, date, specific users, and file and attachment data. Pricing begins at \$495 for one content database.

■ NetApp Symantec Enterprise Vault 8.0

NetApp announced integration of its archive and compliance solution with Symantec Enterprise Vault 8.0. Enterprise Vault has optimized its support of NetApp deduplication. The combination of NetApp deduplication with Symantec Optimized Single Instance Storage gives customers a way to eliminate redundant data and reduce storage costs. Symantec and NetApp's integration provides customers storage efficiency with the ability to run both file single instancing and block-level deduplication at the same time. The approach provides technologies for archive environments with deduplication, single instancing, thin provisioning, Snapshot, and RAID-DP. NetApp and Symantec indicate the integration allows customers to maximize storage efficiency and optimize protection of enterprise archived data to reduce the TCO (total cost of ownership) of archive environments by up to 60%.

■ SanDisk SSD C25-G3 & SSD C18-G3

SanDisk has released the third generation of SSDs, which includes the SSD C25-G3

and the SSD C18-3G. The drives feature MLC (multilevel cell) flash technology and a SATA-II interface. This new line is available in 2.5- and 1.8-inch form factors, supporting up to 240GB of data. The G3 SSDs clock in at 40,000vrpm. The 240GB model offers LDE (long-term data endurance) of 160TBW (terabytes written). Other features include ExtremeFFSTM random writing, 43nm MLC ABL (all bit-line) NAND flash memory, and the new SSD controller for NAND and the algorithm. MSRPs are \$149, \$249, and \$499 for the 60GB, 120GB, and 240GB models, respectively.

■ WiebeTech RTX400-QR

For those who need four-bay RAID storage in a non-networked DAS (direct-attached storage) enclosure that outpaces NAS devices in throughput, there is the new RTX400-QR from CRU-DataPort's WiebeTech brand. The \$899.95 and up enclosure features eSATA, USB 2.0, and FireWire 400/800Mbps connections for maximum speed or compatibility. It offers RAID 0/1/10/3/5 support and can be ordered preconfigured in RAID 5.

■ Winchester FlashNAS

The carrier-level FlashNAS storage appliance/server from Winchester Systems can now support up to 128TB in its optional 2U form factor, the company announced. The 1U can now handle up to 64TB. The FlashNAS supports a concurrent mixture of SAS, iSCSI, and Fibre Channel drives, VSS (Volume Shadow Services) snapshots, SIS (Single Instance Storage) deduplication, RAID 6, and more. Pricing (not including storage) starts at about \$9,000.

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OPINIONS

Qualification Fraud: Liar, Liar, Pants On Fire

In an ever more competitive job market, there are a number of factors that differentiate one candidate from another. For those entering the workplace for the first time, it's often education that plays a pivotal role in securing a first job. Those already in the workforce continue to develop themselves through ongoing education and certifications. However, there are some folks who want to take a shortcut by skipping the work and getting a fake diploma or degree.

Qualification fraud costs us all when the information provided by a potential employee is bogus. The opportunity to gain better employment and pay has spawned an industry that caters to those who are willing to falsify their educational background.

Diploma Mills: An Industry Is Born

Having spent considerable time and money on my own education, I've kept the issue of qualification fraud on my personal radar. I decided to investigate recent fraud events and was very dismayed to find out some of the facts:

- · Worldwide "diploma mills" are a billiondollar business.
- · Fake diplomas cross all educational levels—high school to PhD—in fields as varied and important as engineering, chemistry, medicine, and law.
- Diploma mills trade on fictional, as well as genuine, educational institution accreditation. This problem extends to supporting documentation such as transcripts and grades.

- · Some diploma mills are providing telephone backup to their fictional efforts should someone call for confirmation of
- Diploma mills attract people from all walks of life, including new immigrants, established professionals, and the crimi-
- Providing or presenting a fake diploma or degree is not a crime worldwide.

There are a number of other ways that people attempt to gain an employment edge.

Some of the methods I've seen, I have not been particularly impressed with.

For example, some "attended" a bogus educational institution to gain immigration rights and education documentation. Others stretched their educations to look as though a diploma or degree was completed. Some claimed experience but in fact had studied potential interview questions prior to interview with no real experience or understanding.

Qualification fraud manifests itself in a number of ways-incompetent medical staff who endanger patient safety, untrained lawyers and law enforcement officials who compromise public safety and security, unqualified government officials and security personnel who gain access to secure information and areas, and engineering staff that do not apply safety margins in their designs.

Unqualified IT practitioners can cause system and network issues, project failure, productivity loss, and decreased confidence in the IT department.

How Can We Fight Qualification Fraud?

Qualification fraud is incredibly harmful to those of us who have come by our experience, qualifications, and training the oldfashioned way through hard work, not to mention how it degrades those legitimate educational institutions whose documentation

Ensure that the institution in question is on its accredited list as a double-check. Finally, give it the sniff test: Does the described education fall in the right chronological order? Is the amount of time described correct for the claimed accreditation? Ask qualifying questions about the educational institution, curriculum, favorite course, or best professor.

institution by a known diploma mill list.

Pursue other candidates. If the résumé still doesn't seem right, follow your gut and pursue other candidates. Users of fake or stretched qualifications are relying upon our innately trusting manner and betting that we won't check. Most organizations do not ask for or check documentation. Only later, when there seems to be something wrong with per-

> formance or knowledge, do we start to wonder about those qualifications, at which point it's too late to check.

Support your educational institution. Find out how to identify faked documents that trade on its reputation and accreditation.

Lobby government officials to create legislation. What else can we do to stem the flow of these faked documents? Lobby your govern-

ment officials to create legislation with real bite to make the creation and use of these faked documents a serious crime.

Those of us who have spent time, effort, and money to gain our credentials need to get angry, get active, and get vocal on this issue to give it the attention that it needs. \square

> Send your comments to infotech@processor.com

RUSS CONWATH

Russell Conwath is a senior research analyst at Info-Tech Research Group and has spent more than 20 years in IT. Conwath has experience in software and hardware development, systems and software implementation, IT remediation, and senior technology management in a number of industries, as well as in independent technology and business consulting.

is being forged. How can we attempt to stop this kind of fraud?

Validate candidate qualifications. Use a reputable recruiter that validates a candidate's qualifications prior to presenting him for consideration. Ask for proof of education and training and validate the documentation either directly or by using an employment verification service; often these services offer qualification validation. Run the educational

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News

SAP, Oracle Feud Escalates

SAP has asked Oracle to supply the profitability results of its PeopleSoft and JD Edwards products. In a lawsuit dating back to March 2007, Oracle accused SAP, through its TomorrowNow subsidiary, of illegally accessing Oracle's computer support systems. TomorrowNow allegedly stole customer support information to acquire additional customers. Damages requested by Oracle are based on the value of the work violations. Market analysts don't expect Oracle to comply with SAP's demands because the company has been dragging its feet since the beginning of the case.

■ Dell To Repay Customers



Dell announced it will shell out \$3.85 million to customers in 46 states who experienced difficulties with the company's technical support, rebates, and financing promotions. Products must have been purchased between April 1, 2005, and April 13 of this year. In order to provide restitution for its purportedly deceptive sales practices, Dell will pay \$1.5 million to customers who file claims by April 13 and \$1.85 million to states for legal costs and additional expenses. Dell does not concede to any claims of wrongdoing. Dell says these issues represent a small portion of consumer transactions in the past four years.

Open Cloud Consortium Discusses Cloud Standards

The Open Cloud Consortium, a freshly formed group composed of several universities and managed by the Center for Computational Science Research, is looking at a number of issues surrounding the implementation of storage and computing clouds that spread across data centers. One of the issues surrounding clouds is the lack of compatibility between cloud providers. The OCC wants to promote interoperability between clouds, support open-source software, and develop cloud standards. Member universities include the University of Illinois at Chicago, Northwestern University, Johns Hopkins University, the University of Chicago, and Calit2.

Cloudy Days Ahead

A Look At The Different Layers Of Cloud Computing

by Sandra Kay Miller

OVER THE LAST FEW YEARS, the buzz has been about virtualization. While much of the initial focus has been on individual servers and consolidation, the virtualization of the data center as a whole has given rise to the commoditization of applications through the elimination of tying software to the physical hardware. From this simple concept, new paradigms revolving around the cloud (aka the Web) are gaining in popularity throughout the enterprise

"One of the reasons that I think the cloud metaphor is gaining such traction is because there are a number of different layers that can be expressed and tapped into. That has produced a lot of stimuli for people to think about elastic services that are applied outside of the normal methodologies and realm that they normally think about," says Steve Oberlin, chief scientist with Cassatt (www.cassatt.com).

Cloud Flavors

Software as a service is essentially the outsourcing of an application to a cloud provider where the application is hosted on an external service. "You don't necessarily know or care where your application is running or how those systems are being managed. You are being charged for the use of that end application being provided to you," says Oberlin.

"There are many organizations choosing to actually move to cloud-based services for things that are traditionally in-house, such as email. This means someone will run Exchange out in the cloud rather than having their own IT administrators worrying about Exchange. Now, you can pay somebody on a per-mailbox basis to do that for you," says Stephen Pao, vice president of product management for Barracuda

Types Of Cloud Computing

Software as a service: The end application is purchased on an as-needed basis.

Platform as a service: The application is written for a particular hosted platform.

Infrastructure as a service: Server resources are available on an as-needed basis.

Networks (888/268-4772; www.barracuda networks.com).

The next level in cloud computing is platform as a service, or PaaS, and refers to when the enterprise owns the application but is writing it to a particular platform with well-defined APIs that are hosted by a cloud service provider.

Microsoft recently announced its Azure Services (microsoft.com/azure), based on the Microsoft .NET Framework that is poised to deliver interoperable services that can run on the Internet and within internal environments. Google is also offering a similar service, except its API is through Python, a common scripting language. "The enterprise writes their application, but the capacity that powers that service is provided by whoever is running the software stack all the way up to the presentation layer," says Oberlin.

There is also IaaS (infrastructure as a service), in which the enterprise provides the application and software stack based upon a particular infrastructure or server definition. The server is defined and supplied by a third-party supplier based upon the users' needs.

An example of this is Amazon Elastic Compute Cloud (aws.amazon.com/ec2), which allows users to only pay for the resources that are actually consumed, such as instance-hours or data transferessentially, renting servers over the Web. "Users can purchase as many servers as they want where the servers are defined by different scales depending on network connectivity, memory capacity, CPU, etc. It's defined as a particular unit of server horsepower," Oberlin says. "You just set up an account and pay for [the servers] with a credit card. The sky is the limit, and when you no longer need them, Amazon will take them back."

This extremely dynamic hosting service provides an elastic unit of service in the cloud and is defined as a particular class and nature of a server. Unlike signing up with an ISP or a colocation facility, enterprises are not required to sign a long-term contract or only receive a particular section of a dedicated server. "I can now say I need a hundred servers and then give them back three hours later. There are very few ISPs even approaching that magnitude of flexibility or ability to provision servers on demand," says Oberlin.

Moving beyond traditional IT offerings, content as a service, or CaaS, is also emerging from the cloud. Publishing and

What Works Well In The Cloud

Here's an idea of how organizations are using cloud computing today.

- Business applications (email, CRM)
- Web servers
- Downloads
- Storage
- Backup/disaster recovery

marketing on-demand have led to the need to pull information from multiple and disparate virtual locations in order to facilitate real-time business models driven by the management of Web content.

Challenges

While many of these cloud mechanisms are being employed, there are still a number of challenges facing organizations wanting to move in that direction—namely security, service levels, and regulatory compliance.

Pao has witnessed much confusion with regard to effectively securing applications and information in a cloud environment. He asks, "If your applications and data are in the cloud, does it make sense to have your security be on premise?" Organizations turning to cloud computing must think through all the implications of moving critical applications out of their physical realm, or they could face legal repercussions due to a lack of audit ability for stringent compliance regulations.

Additionally, in order to adopt an external cloud supplier on any one of these levels, enterprises must first migrate their internal capacity to a cloud product. "If your applications and the platforms they're written for don't match a particular cloud vendor's offering, you may not be able to move it into the Web. The same is true for infrastructure as a service," warns Oberlin.

As a result, the cloud is expected to be an asset for new applications and the elasticity aspect for giving access to capacity in many cases for unplanned demands. But there's always going to be a need for internal or private clouds, which is leading to the next revelation—internal cloud computing. Oberlin explains, "Instead of resource stovepipes that are isolated and hard-installed with the application, you adopt a cloud-like model—turning your own data center into a cloud that your own enterprise can treat as an elastic resource."

Pegarur Computer Marketing, Inc.







Open Source In Every Enterprise

Despite The Price, Costs & Considerations Are Still Required

by Curt Harler

"FREEDOM IS NOT FREE" proclaim many posters and T-shirts. Although they are talking politics, the idiom is also true with software. Adoption of OSS (opensource software) is becoming pervasive, but SMEs have discovered that OSS comes with an ongoing price. One of those prices is vigilance.

According to Gartner, 85% of companies surveyed last summer currently use OSS in their enterprises. The remaining 15% expect to implement OSS sometime in the next 12 months.

OSS is everywhere. Governance, or lack of the same, is the top challenge facing OSS users in the Gartner survey, followed by conflicting terms and conditions and the availability of too many license types and forms.

The Cost Of OSS

For IT directors at SMEs charged with making deployment decisions on OSS, the challenges are many. The lure of OSS is powerful. What is an SME to do?

"Just because something is free doesn't mean it has no cost," says Laurie Wurster, research director at Gartner. But she clearly is high on OSS: "Open source is about having it 'my way,'" she says.

She says roughly 75% of proprietary software's cost is in initial sales and marketing. In a \$400 package, she says, about \$300 is tied to sales and marketing money not in the cost of developing the OSS. "If you need sophisticated integration, pay for the upgrade and support. But if you don't need them, why pay for them?"

"Open source saves you money up front, but, of course, there's no free lunch," agrees Russ Nelson of Crynwr Software (www.crynwr.com), who is the vice president of licensing with the Open Source Initiative. "Sometimes you have to fix your own bugs. On the other hand, proprietary companies have zero interest in fixing a bug that only affects a few customers."

Wurster notes that upgrades and patches are part of the community involvement in improving and evolving OSS. She disagrees with people who maintain that OpenOffice costs as much to implement as Microsoft Office. "There always will be training costs," she says. "OSS is not free, but the sales costs are out of the front end."

"Cost control is always the target," Nelson says. That means that the enterprise, when it needs to fix a bug, should send the bug fix back to the project leaders for integration into the product, he explains. "That may help a competitor who has the same problem," Nelson admits, but "it will also ensure that the enterprise doesn't have to maintain its own version, the costs of which rapidly balloon out of control."

Programs & Policies

Nelson suggests programs such as Linux, Apache, MySQL/PostgreSQL, and Perl/Python. "Beyond that, you can get into network and server monitoring," he says. He suggests looking into a printer infrastructure (so people print by default on a cheap printer but also have specialized printers available to them). He adds there is good OSS for internal blogs, mailing lists, and chat.

Some IT people are concerned about having too much OSS. They fear what happens when any department can roll up OSS and want policies to control OSS proliferation. But Nelson isn't sure policies are required in all instances.

"If software solves a problem, what need is there for internal standards?" he asks. "Do internal standards get in the way of admins or engineers solving problems? Perhaps 'internal standards' need reviewing when software procurement becomes 'Click to Download,'" he says, wondering what the objection to OSS is when three different packages can be downloaded, tried, and abandoned within an hour.

Wurster agrees. She found only about 30% of some 300 end-user firms she recently surveyed have policies. "You need common-sense rules," she says, noting there are many different licenses for OSS. "You need to select a few. Be consistent on what you select."

Another Gartner survey found 69% of respondents have no OSS policy in place; only 20% do have an OSS policy. OSS policies don't have to be different or complicated to be effective, Wurster emphasizes.

Gartner analyst Stewart Buchanan recommends SMEs stop treating OSS as "special" or in any way exempt from the law or with all software use.

Start by recording all software used in your enterprise, including all terms under which it's licensed and maintained, as part of your SAM program. Track all software used in your organization down to the component level or, in the case of software development, down to the fragment level in the source code. Next, assess all legal risks associated with software, including patent infringement lawsuits and breaches of contract, licenses, or copyright. Take all feasible steps to mitigate the risk of using all software. Finally, expect OSS licenses and their variations and owners to evolve, just as commercial licenses do. Assign a stakeholder who has the right interests and experience to track these.

Making OSS Work

Any SME should have policies and procedures in place so OSS does not spread out of control. Such a policy should require testing, just as one would test proprietary software.

SMEs should understand their license agreements and try to determine how "mature" or widely accepted an OSS solution is. Be sure there is a trusted provider who supports the software. Be aware of any vulnerabilities OSS may open in your network. Beyond that, the experts say to dig in.

"Don't think of it in terms of the software itself, but what it allows to happen," Wurster suggests. "Amazon.com and other Web-based businesses couldn't run as efficiently if it were not for OSS." He adds that this is because software development costs would be mind-boggling.

OSS is easier to upgrade at larger firms where support staff exists. Large firms get that "free" as part of the IT staff's responsibilities. But smaller firms still can get improved versions as all OSS users send improvements back into the community with improved or upgraded code.

Nelson's advice to anyone for making OSS work parallels Wurster's: Test cases and then test some more. "The enterprise should make sure that every part of the project has a unit test and test cases that support its own operations," he explains. When an enterprise gets a new version, it can simply run the project's unit tests. "If they then find any problems in the software, they add a unit test that finds it," he adds. \blacksquare

SAM (software asset management) policies. He recommends concentrating on the important legal and commercial challenges

Consumers Distrust Companies' **Green Claims**

News

A study released by the CEA (Consumer Electronics Association) found that more than half of consumers doubt the veracity of companies who claim "green" qualities. Consumers believe that in order to sell more products, companies are overstating the environmental-friendliness of their products. Many consumers are simply confused as to what exactly "green" means, as manufacturers have not reached a consensus on a definition of the term. This mindset can have ramifications. Steve Koenig, director of analysis at CEA, says, "Green features are trumping brand," meaning that consumers may purchase a product that seems more environmentally sound over a product with a solid reputation.

Nortel Files For Bankruptcy Protection



Telecommunications company Nortel Networks has filed for Chapter 11 bankruptcy protection in the United States after a yearslong battle to turn its business around. The Toronto-based company, once one of the largest in Canada, has been facing increasing debt and losses in revenue for years, despite several attempts at cutting costs, selling off smaller chunks of its business, and investing in new technologies. As part of its Chapter 11 restructuring, it's likely the company will be broken up and sold off; however, some believe Nortel would be a prime candidate for acquisition after using the restructuring to regain its footing and strengthen its core business. Nortel also plans to file for bankruptcy protection in Canada and Europe.

Motorola To Cut 4,000 More Jobs

Beleaguered mobile communications vendor Motorola announced it will cut 4,000 more jobs, or 6% of its workforce, in a further effort to save money. Of the 4,000, about 3,000 will come from the company's mobile devices division. Motorola's fourthquarter shipments of handsets dropped more than 50% year-over-year, falling to 19 million handsets shipped—short of the 22 million predicted by analysts. This round of job cuts, set to begin immediately, joins a 3,000-position reduction announced in October; with this round, Motorola says it will save about \$700 million.

■ Tearte Named As IBM's New Storage Chief

Curtis Tearte has been named the new general manager of storage in the IBM Systems and Technology Group. He replaces Andy Monshaw, who is now the general manager of sales and operations for IBM Japan. Tearte has been at IBM since 1979 and has been with the Systems and Technology Group since 2005. He was previously in charge of IBM's Industry Growth Initiatives, Infrastructure Solutions, Innovation Solutions, and the Industry Systems Division organizations. In his new role, Tearte is responsible for strategy, product development, marketing, sales support, and program profitability for the IBM storage business, which has acquired several systems companies last year.

Open Source Risks, Mitigation & Benefits

	Risk	Mitigation	Benefit	
License	Need to publish all derived source code	Monitor components and terms to code level	Access to and retention of the source code	
Contract	Greater enforcement of legal responsibilities	Manage contacts and review license terms	Protection of developer and user rights	
Maintenance	Inability to locate all code to be patched	Track assets for security or legal remediation	Competitive market for code support	
Bundling	Confusion of right and accountabilities	Track assets against terms and maintenance	Speeds development and lower costs	
Source: Gartner (March 2008)				

Jobs' Health Concerns Throw Apple's Future Into Question

In a Jan. 5 statement, Apple CEO Steve Jobs, 53, attempted to end speculation regarding his health, attributing his recent weight loss to a hormone imbalance that had been "robbing" his body of proteins. Now, Jobs has released a new statement announcing that his health concerns are more complicated than he'd thought and that he is taking a medical leave of absence until the end of June, though he will remain CEO. Going forward, it remains to be seen whether conjecture regarding Jobs' wellbeing will change, primarily because of how closely Jobs and Apple are linked.

Jobs' health has been in the public eye since 2004, when he survived a rare form of pancreatic cancer. Since then, several health-related rumors have caused Apple's stock value to fall. Apple's board of directors posted a statement on Jan. 5 that "if there ever comes a day when Steve wants to retire or for other reasons cannot continue to fulfill his duties as Apple's CEO, you will know it," but the question remains: What is Apple's future without Jobs at the helm?

Apple Without Jobs

Analyst Rob Enderle of the Enderle Group believes that, without Jobs, Apple "would go into slow decline again. . . . Apple is simply not structured to take a normal CEO at the moment and would require substantial restructuring to survive without him."

Whether Jobs' health has played a role in Apple's stock price losing about half its value since 2007's end is debatable. What's not debatable is that tech and news industries love any topic related to Jobs. "Steve is the \$20 billion man, with folks believing his departure would have an immediate \$13 billion to \$20 billion negative impact on Apple's valuation," Enderle says. "In addition, Steve is a celebrity—and the only CEO who seems to be able to stand in front of an audience with a product and build a feeding frenzy for that product."

Since Jobs rejoined Apple in 1997, the company has enjoyed extreme success. Considering the Apple/Jobs connection, it's uncertain whether such success would continue in Jobs' absence, Enderle says. "This heavy dependency works both ways, because not only does Steve Jobs define Apple, Steve views himself as primarily Apple's CEO. So, the job defines him, as well," Enderle explains. "I believe, like many, he thinks that were he to lose it, his life would likely end shortly thereafter. He has no apparent post-Apple strategy like Bill Gates did for his role at Microsoft."

by Blaine Flamig

Choose The Right Vendor & Manufacturer

A Good Partner Helps You Maintain **Your Enterprise**

by Jean Thilmany

WITH SO MUCH CONSOLIDATION happening among vendors and product manufacturers, it's especially important for data center and IT managers to thoroughly vet vendors and product manufacturers to best protect themselves from possible losses should a vendor shut its doors or get gobbled up by a competitor. So what precautions can managers take to protect against loss and determine whether the vendor and manufacturer will be around for the long haul?

"I see a spectrum of strategies here, and the advice I give IT managers depends on several factors, starting with what are the technical needs of the company and what's already in place," says Andrew Shafer, consultant at Reductive Labs (www.reductivelabs.com).

For those companies considering hardware, Shafer counsels them to choose large, well-established vendors—always a safe bet for the long haul when it comes to consolidation, he says. But managers should always weigh the cost of maintaining servers and other expensive hardware against the types of IT services that could be outsourced or built in to the emerging virtualized infrastructure, he says.

Those services can be transferred between these types of hosted or managed service companies more readily than an IT department could evaluate, implement, and test new equipment, he says.

Managers can be relatively sure the larger software player will be around long term, gobbling up the little guys, says Shafer. But he also gives a plug to opensource solutions.

Tips For Vetting A Vendor

- · Thoroughly interview all potential vendors.
- Determine if a software maker or reseller provides separate sales and implementation teams.
- · Ask how your project will be managed.
- · Ensure the reseller is more interested in your needs than in its bottom line.

"Now is a great time to leverage opensource solutions, which will typically be lower cost and, in many cases, not dependent on a single vendor," Shafer says.

Vetting The Reseller

To guard against market consolidation, many small to midsized companies will turn to a value-added reseller. These resellers take a project-management approach to software and hardware implementation, says Robert Murphy, division president at reseller Presidio Networked Solutions (www.presidio.com). Resellers sell products from many vendors and integrate hardware and software into a customized turnkey solution for customers.

The proper reseller can choose among the best-of-the-best solutions tailored to a particular job and company. Because they know the industry, the reseller can also help guard against market consolidation, Murphy says.

The key is to find a reseller that studies the company and its IT needs and that takes a project-management approach to the job, he says. Such resellers will be aware of potential vendor issues, including compatibility issues. A reseller simply focused on making a sale may not be aware of such issues.

So how to ferret out the right reseller for your needs?

"Look at how they approach delivering services," Murphy says.

Resellers best suited to manage large projects will offer a fixed-price contract for the project. They'll send a project engineer to meet with IT managers to map implementation step-by-step using accepted project-management techniques.

"They'll do a time and motion study breakdown that identifies project tasks, the hours each task will take, and the skill level required for each task," Murphy says. "It's basically a spreadsheet; there's no magic to it, but it creates a granular view of the task at hand.

"That kind of management takes a lot of the guesswork out of the project and gives a company a high level of comfort about how the project will be managed," he says.

Conduct An Interview

Daniel Young, founder of mobile technology management software provider

Key Points

Software providers multiply like rabbits but also consolidate at an advanced pace. Ensure your software provider will be around for the long haul by knowing exactly what you want and interviewing providers in exacting detail to ensure they will meet your needs.

DXY Solutions (www.dxysolutions.com), recommends companies shopping for a vendor conduct a thorough interview almost like a job interview—with a potential vendor or reseller to ensure it properly meets all needs. Such meetings will help IT managers look beyond price when vendor shopping, he says.

"The cheapest won't necessarily be the best or the most appropriate for you," he says. "You're going to need to vet the company to make sure it's capable of doing what you need."

Be certain to ask how long the vendor has been in business. Also, during the meeting, ask for a list of the vendor's previous customers. Then contact them for references, Young says. IT staff should ask to meet the team they'll be working with to help determine team members' experience and feel out the potential for conflict, he says.

"You could end up working with a vendor with lots of personality clashes, and that creates a dynamic where the free flow of information isn't going back and forth between the customer and the vendor," Young says. "Then, certain things aren't discussed or brought out and would be material to the success of the project."

But shoppers need to come to such vendor meetings prepared, as well, says Young. IT staff should provide clear project specifications to the vendor or reseller to help the staff best quote the project.

He also recommends IT managers ensure potential vendors or resellers are speaking about an overall solution to the problem at hand, not just offering technological fixes. But staff members need to ensure they're speaking clearly about the task at hand.

"Try to figure out your problem so you can state it very clearly," Young says.

Know what you want and need, then search intelligently for the vendor best able to meet your needs and be around for the long haul, these experts say.



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How To

Keep Servers In Tip-Top Condition

Proper Management & Maintenance Are Critical To Data Center Performance

by Christian Perry

EVERY SEASONED SYSTEMS ADMINISTRATOR has a tale about a legendary, dusty server that sat untouched in a corner for 10 years without needing a speck of maintenance. But for each one of those tales, there are five others that detail a critical server breakdown that led to hours of downtime and massive revenue losses.

"Without the proper focus on management and maintenance, the performance of server environments can become unstable, resulting in unnecessary downtime that diminishes productivity across the enterprise," says Nick Sharma, head of Satyam Computer Services' Infrastructure Management Services practice (www.satyam.com). "Constant watch must be given to these server environments, as they are the lifeblood to the applications that drive day-to-day business functions. Servers . . . can encounter both physical and performance-related issues, such as virus infection, slowed performance, and over- and underutilization."

Keep It Cool

To get the most from server investments, it's no secret that servers must be housed in the proper environment. However, it's not enough to simply throw servers into an environmentally controlled room, says Eric Hobbs, president of Technology Associates (www.technologyassociates.net). One overlooked issue is chassis setup.

"Oftentimes we see servers, in an effort to keep them cool, without side panels. Server chassis are specifically designed to promote proper airflow. Keep server panels installed and locked properly to ensure that proper airflow is maintained inside the chassis, and ensure that all internal air ducts are installed properly," Hobbs says.

Airflow outside of the servers is similarly key to ensuring servers are in top condition. Matt Kightlinger, director of solutions marketing for the Liebert Products business of Emerson Network Power (www.liebert.com), recommends that server racks have at least 80% perforated doors to maximize airflow, and he adds that blanking panels can

help to separate hot and cold air. Precision cooling is equally important, he says.

"As we pack more servers into small spaces, including high heat-generating blade servers, nothing jeopardizes the welfare of those servers like insufficient cooling," Kightlinger says. "Providing sufficient cooling to the servers is often the gating factor when deploying new technology. Precision cooling controls the IT environment and ensures heat doesn't become a crippling problem in these high-density spaces. Building air conditioning is not the answer."

Like cooling, power elements can also determine the health of servers. Hobbs notes that while servers typically are plugged into UPS devices designed to match their power consumption needs, overloaded UPSes or servers are often plugged directly into the wall. With the use of power conditioning and protection, problems related to overloading and other issues won't have a chance to impact the servers.

"Without a good UPS, any kind of power hiccup . . . can cause crashes, server damage, and data loss," Kightlinger explains.

Don't Go Soft On Software

According to Jay Hunter, senior network engineer with the National Education Association, a majority of server difficulties occur due to poorly written and improperly managed software, which includes BIOS programs; drivers; operating systems; application services for Web, database, print, file, and SMTP; and highly customized apps such as accounting systems, resource management systems, and high-end Web applications.

"The best way to keep all of these various factors in line is to understand how each component is configured, deploy the software properly, and manage it only when needed," Hunter advises. "Properly written software will keep the system memory clean and make the most efficient use of resources on the server. If a program does not know how to terminate a process properly, it could lead to a memory leak, which then leads to slow performance, which is only resolved by the reboot of the server. The reboot of the server, which stops the server and all the applications on the server, is rarely caused by a hardware issue, but [instead by] improperly maintained software."

Keys to good server health, according to Hunter, include monitoring your servers;

ensuring they are up-to-date; and employing effective, unobtrusive antivirus software (if using a Windows-based server). For monitoring, Hunter recommends using a good SNMP monitor to keep an eye on processor, memory, and network utilization, and while enterprise-class servers generally include their own monitoring and management tools, third-party tools are also available.

Page 21

Satyam's Sharma adds that there are also health check tools that collect data and stats to identify performance enhancements, security risks, and client configuration concerns. The tools are passive and only collect information about the server configuration.

"During the health check, staff should be taught how to analyze the data collected, diagnose server problems, and accelerate the resolution of these problems," Sharma says. "This process will maintain the efficiency of the server configuration and minimize the risk of internal and external attacks on the server and the internal clients. With daily inspection, the health check tools gain familiarity with the normal state of the system and can more easily find abnormal messages and indications of abnormal performance—meaning any problems will be detected sooner rather than later."

Expect Expenses

Although keeping servers in top condition is necessary, it's not an inexpensive endeavor. Mike Thompson, president and CEO of Groupware Technology (www.groupware technology.com), indicates that this maintenance can cost as much as 200% of the actual cost of the hardware over a three-year cycle.

"This is something that is not usually figured into the TCO when purchasing hardware," Thompson says. "Oftentimes, [these costs] exceed the [capital expenditure] of the initial purchase over the life cycle of the server."

Sharma identifies several areas to prepare for in terms of server condition cost. One is labor, and he says that skilled IT staff who can adequately collect and analyze data need to be onboard. Other costs include facilities (managing and maintaining the data center environment), software, and potential maintenance contracts.

Key Points

- Airflow, inside and outside of servers, will ensure the devices are receiving proper cooling
- Poorly written or configured software can negatively impact server performance
- Server monitoring can help identify problems with server utilization

TOP TIPS

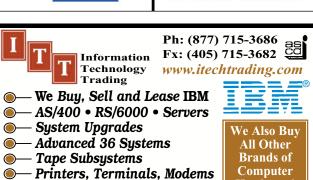
- Establish policies. Nick Sharma, head of Satyam Computer Services' Infrastructure Management Services, explains that IT organizations should establish policies and procedures for server management and maintenance. The procedures should then be documented so all data center personnel are operating off an enterprise-wide standard. "Once the proper policies and procedures are in place, it is important that the enterprise adopt a server management ratio that is in line with the level of service required. To determine this ratio, the enterprise must first determine its availability requirements.
- From there, it must identify the tasks it will be asking each administrator to perform and determine the appropriate load," Sharma says.
- Stay clean. "Dust can cause serious problems when sucked into a server intake," explains Matt Kightlinger, director of solutions marketing for the Liebert Products business of Emerson Network Power. "Keep the IT space clean and dust-free with regular cleanings, including occasional cleanings by professional data center cleaning crews."
- Install a sniffer. According to the NEA's Senior Network

Hardware!

good network sniffer can help identify trouble when you introduce a new software client to an existing server, but the new client will not perform as well as the previous client. For example, the sniffer can help determine whether the problem stems from poor connectivity or network application performance. "Oftentimes the server is working as it should. But external connectivity issues will make it appear that the server is at fault, and incorrectly troubleshooting the server will turn a fine-running server into a troublesome server," Hunter warns.

Engineer Jay Hunter, a





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SIX QUICK TIPS

Data Center Safety Is A 24/7 Affair

Smart Data Center Managers Keep An Ever-Vigilant Eye On Workplace Safety

by Drew Robb

THE U.S. DEPARTMENT OF LABOR'S Bureau of Labor Statistics announced last year that the number of occupational injuries and illnesses decreased from 2006 to 2007. This doesn't mean, though, that data centers can afford to be complacent when it comes to the safety of employees.

Follow OSHA Guidelines

The improved statistics are certainly due in large part to the efforts of the Occupational Safety and Health Administration, aka OSHA. According to OSHA, injuries and illnesses with days away from work have decreased by 11.9% from 2003 to 2007.

"OSHA's efforts reducing workplace injuries and illnesses have included cooperative efforts such as voluntary protection programs that help companies generally experience 50% fewer lost workday injuries, and they have injury and illness rates that are 53% below their industry's average and reduced workers' compensation costs," says Thomas M. Stohler, acting assistant secretary of labor for OSHA.

Because of this, it makes sense to follow OSHA guidelines, have personnel trained in OSHA best practices, and appoint someone in overall charge of workplace safety programs.

Avoid Heavy Lifting

In today's world, most men and women are highly competitive. They want to prove they can do something, even if it hurts. To many, for example, heavy boxes and cabinets represent a challenge—they want to demonstrate their ability to carry or move them unassisted. Just a little tweak might seem like nothing at the time, but over time, minor injuries can lead to serious back and neck problems.

Thus, it's best to use hydraulic or airpressure systems to raise heavy equipment. If it might cause a strain to lift it, you should probably let a machine do it for you.

"Lift equipment is available from office system suppliers that is much more effective than trying to move it all around manually," says Jeanne Matson, president and CEO of Starnet (www.starnetflooring.com). "You will experience far less downtime if you use it."

Beware Of Electrocution

Exposed wires can cause fires and electrocution. Therefore, it is necessary to inspect all the cords of electrical equipment to ensure there are no exposed wires. Replace exposed wires or any that exhibit cracking. And when using extension cords

outside, make sure to only use those made for an exterior environment.

Another electrical danger to be alert for is an arcing fault. With the higher voltages employed in data centers, the sparks can really fly. According to Dave Bradley, an engineer for Siemens Energy and Automation (www.sea.siemens.com), some arcing faults can rise to temperatures of up to 35,000 degrees Fahrenheit, which is nearly four times the level at the surface of the sun. At this temperature, all known materials are vaporized, and when vaporized, they greatly expand in volume—not the sort of event you want happening anywhere near

When fixing potential hazards, therefore, follow guideline 29 CFR 1910.333(a)(1) from OSHA, which states that you should unplug or otherwise de-energize live equipment before an employee works on or near it. In other words, don't have technicians poking around in electrical gear during maintenance without turning it off first.

Watch Out For Server Hot Spots

Data center managers are giving a lot of thought to reducing the heat from their servers. Lance D. Harry, an engineer with UTC Fire & Security (www.utcfireand security.com), notes that according to the NFPA (National Fire Protection Association), from 1994 to 1998, an average of 19 structure fires were known to have started in U.S. data centers each year. Those figures are likely to be on the low side, both because of the tenfold increase in the number of servers since that time, as well as companies' reluctance to disclose fires in their facilities.

"Fires in the data center typically initiate through electrical equipment or component failure or some sort of human error, such as poor maintenance practices," says Harry. "It should be noted that in many cases, companies prefer not to publicize even the smallest of events within a mission-critical environment, so data in this area can be difficult to extract."

True, fires originating in data center equipment are rare, but the fire doesn't have to start there. It can cause just as much damage if it spreads from another part of the building. But in either case, the damage is usually preventable.

Best Return On Investment:

Balancing Budget & Risk

In these days of recession, budget cuts, and layoffs, there may be times when sophisticated safety and fire protection systems are not

Stanford University, for example, uses different levels of protection for its computer equipment. It utilizes top-level protection measures at its main data center. In smaller computer rooms that house less critical gear, it scales back the degree of protection and, hence, the cost of implementing/maintaining it, according to Steve Jones, manager of high-performance computing at Stanford.

"It is a business continuity and risk question," says Forrester analyst Galen Schreck. "Maybe you have a computer room in a branch office, and nothing critical is stored there. Many people just go with the water, knowing that anything there will be destroyed if there is a fire there."

Simple Tip:

Change The Windows

Fire-rated glass and frames should be used on any perimeter walls, according to Jeff Razwick, vice president of business development for Technical Glass Products (www .fireglass.com). However, these products vary widely in the amount of protection they offer. Normal fire-rated assemblies, such as wired glass and hollow-metal frames, will protect hardware from smoke and direct exposure to flame but do not provide complete protection. A fire outside the data center, even if the glass stops the flames, can still damage equipment by raising temperatures inside the data center by several hundred degrees.

More modern approaches harness multiple layers of glass. The layer closest to the fire will fracture and the inner layers will foam up, forming a layer that is impenetrable by radiant heat. This type of glass should last for up to two hours and can be used for internal or external walls.

"Fire-rated glazing allows visibility into and out of spaces and lets in light while providing around-the-clock fire protection," says Razwick. "Certain types of fire-rated glazing can also protect people and sensitive equipment from a fire's heat."

BONUS TIPS

Maintain smoke detectors.

Smoke detectors are one of those obvious safety precautions, yet many organizations neglect them. Inspection after inspection finds the batteries flat or the systems poorly maintained, says Lance D. Harry, an engineer with UTC Fire & Security (www.utcfire andsecurity.com). Smart small to midsized enterprises install smoke detectors every 125 square feet, including above

the suspended ceiling and below the raised floor, per National Fire Protection Standard 72. Supplement this with air sampling equipment that detects tiny concentrations of smoke to give advanced warning of issues in areas where the building air conditioning is deflecting smoke away from the detectors.

■ Create a shell. As fires often start in other parts of the

building, data centers should be built within a fire-resistant shell. The walls, doors, and ceilings should all be made of fire-resistant material. On top of that, take other precautions to prevent an outside fire from spreading into the data center. In addition to materials such as gypsum and concrete, firerated glazing divides a building into contained spaces that can slow or stop a fire from spreading.





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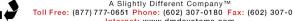
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WHAT'S HAPPENING

Power Player

Eaton Helps Manage The Complexity Of Power Distribution In The Data Center

by John Brandon

ALTHOUGH THE WORDS "managing complexity" may seem mutually exclusive, it's hard to deny the concept as integral to a successful data center. The more accurately you can control your power distribution to servers, adjust cooling within precise measurements, or tune storage arrays for optimal performance, the better the data center will run.

Cleveland-based Eaton (877/785-4994; www.eaton.com) is a "diversified power management" company, but perhaps a better way to think of its data center products, which include PDUs and UPS devices, is as allies in the never-ending battle of understanding and managing power complexities.

"In challenging times, customers are looking for ways to ensure their organizations utilize new technologies that will impact their companies positively," says Curtiz Gangi, director of channel sales for Eaton's North and South American regions. "Eaton's broad line of solutions offer customers choices when designing distributed networks and data centers, and our technologies can be deployed in total or in stages to help customers plan and be more productive. For the SME market, we promote efficiency and manageability."

Getting Started

Eaton was founded in 1911 and focuses primarily on products geared for the electrical markets. Almost 100 years later, the company employs about 80,000 people in 150 countries and posted sales of \$13

billion in 2007. Its highly diversified products range from hydraulics for military use to aerospace fuel. However, for the typical small to midsized company, the Powerware and MGE product lines are of the most interest for managing and measuring power distribution in a data center.

Eaton works in the industrial, institutional, government, utility, commercial, residential, and OEM markets on a worldwide basis. Other brands in Eaton's electric power arsenal include Cutler-Hammer, Fuller, Holec, MEM, and Santak. Additionally, Eaton recently acquired MGE, a maker of UPS devices, and Pulizzi, which manufactures power distribution units and power control systems.

"Protecting today's IT assets has become a focused priority across the globe," says Gangi. "With the successful integration of MGE Office Protection Systems with Powerware, Eaton offers the largest UPS product offering in the industry, giving SME customers the most advanced power quality solutions in the industry."

The Powerware division of UPS and PDU products has been in existence for more than 40 years. Eaton developed the concept of "powerchain management" early on as a way for data center managers to get a full view of how power is being used for servers, storage, and other components of the server room. For an SME, the advantage is in more reliability, lower operating costs, higher energy efficiencies, better safety (especially in terms of energy use and design), and lower risks for installation.

Benefits For SMEs

The main advantage Eaton offers to small to midsized enterprises is in using power more efficiently, which is a key variable in an economic downturn and given rising electrical costs. An SME is more likely to require fine control over power usage, as opposed to a larger enterprise that cannot possibly examine all the finer points of power distribution. With a higher level of maintenance and management, a smaller company—whether it has a handful of employees or 1,000—can have more control over power use, and the data center can operate more efficiently and lower overall business costs.

"Customers are looking at ways to better manage and distribute power efficiently, as well as understand very complex power environments," says Gangi. "As the networking



needs become more complex, power environments do, as well (which involves redundancy, dual power, and other aspects). Eaton continues to educate and support our customers by providing new tools for training and state-of-the-art technologies."

Of course, managing power is more than just viewing the distribution and monitoring usage. It also means making sure the data center is always running, which means using UPS devices that are geared toward servers and other data center components.

"Eaton is the world's leader in UPS technology," says Gangi. "In 2008, Eaton released some of the most efficient UPSes in the industry in an effort to support our customers' initiatives around consolidation, virtualization, and GREEN, which is our award-winning line of single-phase prod-

ucts from the Evolution, and 5130 to our BladeUPS systems. Eaton continues to be the technology leader in the market."

Another product of note is the Powerware Power Distribution Rack, released in December 2008, which helps data center admins distribute power with as many as 168 factory-installed branch breakers and offers the traditional 225A or 400A panels to make use of all 42 pole positions. The rack helps reduce the clutter and confusion of PDU management by putting all the equipment in one place.

Looking Ahead

Gangi says a future development for Eaton will be to manage power distribution to an even greater extent in the data center, especially in light of global warming issues and higher electrical costs. Eaton plans to support more open-source software archi-

tectures as a way to give a deeper, more expansive view into power usage across many brands.

"Eaton is focusing on open-source software architecture and improving efficiency of all of our products to support the needs and businesses of our customers," says Gangi. "In the future, our software management solutions coupled with industry-leading hardware technology will continue to provide customers with flexible ways to achieve their goals."

This embracing of open-source architecture is an industry-wide trend, one that promises many benefits to data centers seeking a bigger view of operations.

Eaton believes the more you know about power usage, the better your data center will operate; furthermore, at a higher level of efficiency, the data center will have a less dramatic effect on the total budget of the company. Power distribution management will undoubtedly continue to be a major trend in data centers this year as the concept of "going green" changes from a buzzword to a reality—a trend Eaton plans to keep up with.

THREE QUESTIONS

Find Value In Preowned IT Equipment

Stallard Technologies Offers Savings Solutions To Cost-Conscious SMEs

by Joseph Pasquini

Today's Economic slowdown has many firms looking for ways to further reduce their often dwindling IT budgets. It's no wonder, then, that suppliers of preowned IT equipment such as Stallard Technologies are expecting to be busy this year.

Phil Poje, chief marketing officer for Stallard Technologies (877/851-2260; www.stikc .com), joined the Kansas-based reseller in late 2006 and is responsible for general marketing, as well as developing new business and strategic partnerships with key accounts. Previously, he was a senior management team member for two different financial services firms in Kansas City.

■ What are the biggest IT-related issues facing today's small to midsized enterprise?

According to Poje, SMEs are forced to deal head-on with the challenges of minimizing costs and maximizing performance, while still ensuring business continuity. The realities posed by today's current economic downturn, however, have considerably exacerbated the issues. "Companies today are under a cash and credit crunch," says Poje. "Many need additional IT equipment, [such as] workstations, servers, and storage devices, for their businesses to expand and to become more efficient, but the cost of new IT equipment is

significant." Poje contends that quality preowned IT equipment provides an ideal alternative. "By using preowned IT equipment, companies can save up to 40 to 60% off of retail,"

"Most preowned IT equipment comes from Fortune 1000 companies where the lease has expired after one to three years of usage in a climate-controlled environment," explains Poje. "Even after a few years, this equipment will easily handle almost every software application in the business environment—even virtualization."

In addition, Poje feels that SMEs that leverage the cost benefits of preowned IT hardware are best positioned to provide business continuity capabilities within their own respective organizations. "All businesses have functions that are critical to their success," says Poje. "However, system downtime or security breaches can be extremely costly and disruptive."

■ What should Processor readers know about your company's products?

Stallard Technologies specializes in buying and selling Dell servers, workstations, and storage devices. "We work with resellers, small and large businesses all around the world," says Poje. "We have one of the largest inventories of preowned Dell equipment in the USA covering over 30 different models with over 1,280 parts in stock."

Before equipment is shipped to a customer, it undergoes a thorough preparation and remanufacturing process. Poje explains that each system is custom-configured to the exact specifications of the customer by Stallard's Dell-certified technicians. Once configured, the systems are then taken through a 20-point inspection procedure before being updated with the most recent BIOS and associated firmware. Software is then installed if requested. Other accessories such as rails, racks, and similar add-ons are also often available. All systems have a one-year limited warranty that can be extended up to three years.

Stallard Technologies also helps companies by purchasing IT equipment that is no longer being used. "We give fair market value on five to 500 pieces of computer equipment, thus providing an easy, economical, and environmentally safe way to reuse it," says Poje. "By reusing and remarketing IT equipment, we provide SMEs with a cost-effective solution while simultaneously helping all of us conserve valuable resources."

■ What makes your company unique?

Poje says his company's varied inventory offers access to multiple models of preowned Dell servers and workstations. "We have the ability [to fill] an order of 500 servers—all one model, configured exactly the same way—and then [ship them] to various locations," says Poje. "Because of our inventory, we can assemble any model of server the same day and have it shipped anywhere in the world."

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